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THE MORE IMPORTANT RECORDS FOR JUNE 1936

The occurrence of grasshopper outbreaks in the Central and Western States is probably the most serious insect problem that developed during the month. Grasshoppers were reported in destructive numbers from Michigan and northwestern Indiana, westward through the northern two-thirds of Illinois to the Great Plains States, including eastern Colorado, and southward to Arkansas and Oklahoma. The most seriously infested States are Iowa, Nebraska, Kansas, Oklahoma, and Colorado. The general and widespread occurrence of these outbreaks prompted Congress to appropriate \$250,000 to enable the Bureau to cooperate with States in a campaign for control. Serious grasshopper trouble was reported also from Utah and north-central California.

Cutworms were especially abundant throughout the greater part of the country during the early part of June. Many species were involved.

Scattered reports of serious wireworm injury were reported along the South Atlantic States and into the Gulf Region, with similar reports coming from the Mississippi Valley and the Great Basin.

Throughout the New England States and westward to Michigan, rose chafers did considerable damage to flower gardens and fruit, with occasional reports of young poultry being killed from eating the beetles.

Rather heavy infestations of wheat by hessian fly were reported from New York westward to Iowa; however, little commercial damage was reported over most of the region.

Although the chinch bug was reported as somewhat abundant from Virginia westward to Nebraska and Oklahoma, little damage was reported in the eastern part of this region. Some damage was reported from eastern Iowa, Nebraska, Kansas, and Oklahoma. A small localized outbreak of this insect also occurred in Northampton County, Va.

The stalk borer was unusually abundant from Indiana westward to Minnesota and Kansas, the larvae damaging principally corn and tomatoes.

In the southern Mississippi Valley from Tennessee to the northern half of Mississippi damage by the sugarcane beetle to corn was reported.

From the Hudson River Valley of New York southward to Virginia and West Virginia the rose leaf beetle was probably the most serious pest to flower gardens and berry crops.

Codling moth entering fruit was reported quite generally over the Middle Atlantic and East Central States during the latter half of the month and, although generally reported as having suffered high mortality during the winter, populations were increasing rapidly.

Eastern tent caterpillar was reported as quite numerous throughout the New England and Middle Atlantic States. The peak was apparently reached last year and this year the outbreak seems to be on the wane.

Apple curculio occurred in outbreak numbers in parts of Ohio, Indiana, and Missouri.

Plum curculio caused more damage than usual throughout the New England States, New York, and westward to Indiana. Severe drought in the Fort Valley section of Georgia delayed emergence of the adults, so that no trouble is anticipated to peach varieties that ripen before the Elbertas.

Damage by oriental fruit moth is reported from the New England States southward to Virginia along the Atlantic Seaboard and westward to Illinois and thence down the Mississippi Valley to the Gulf States. In the East Central and Gulf States infestations were heavier than usual.

From Massachusetts to Ohio, particularly in the Lake Region, the grape plume moth did considerable damage.

An outbreak of the false chinch bug occurred from Michigan westward to Nebraska, the principal damage being done to strawberries, although a number of other crops were attacked. In California this insect damaged grapes.

Several species of flea beetles were very numerous on truck crops from New York westward to Nebraska on the north and Missouri on the south, with similar trouble reported from Utah and Washington.

The Mexican bean beetle was reported as less abundant than usual in the Ohio Valley and Northeastern States. Late in the month, however, the insect began to appear in destructive numbers over much of this territory.

Heavy infestations of pea aphid were reported from New York to Wisconsin, with damage also reported from Kansas, Mississippi, and Utah.

Heavy infestations of cabbage by the imported cabbage worm were reported from Pennsylvania and Virginia, westward to Missouri. Much early cabbage was also damaged in this region by the cabbage aphid.

The first record of serious damage to celery by the parsley stalk weevil in New Jersey was reported this month.

From Wisconsin and Tennessee westward to Nebraska and Kansas strawberry leaf roller was a major pest of strawberries.

Cankerworms occurred in unusual numbers throughout New England, the Middle Atlantic, and East Central States, westward to Iowa and Nebraska. Severe

infestations by forest tent caterpillars were occurring over this same territory, but extending westward only to Minnesota.

The elm leaf beetle was quite prevalent in the New England and Middle Atlantic States, with unusual damage in the East Central States and localized outbreaks in Idaho and California.

European elm scale was generally prevalent from New York to Iowa.

THE MORE IMPORTANT FEATURES IN CANADA IN MAY AND JUNE 1936

The grasshopper outbreak in the Prairie Provinces, which has been widespread, serious, and menacing since 1930, was greatly reduced during 1935 by weather conditions, natural enemies, and the effects of organized intensive control campaigns. Indications this spring point to still further reduction. Hatching in Manitoba was slow and irregular and no damage has been observed, so far, except in the southwest, where dry conditions caused some trouble from grasshoppers. In Saskatchewan hatching began the middle of May, but up to the middle of June, the infestation in southern areas was very light and no severe damage had been done. The insects were generally abundant west of Saskatoon, but damage has been minimized by cool weather, heavy rains, and the distribution of poisoned bait. In Alberta slight losses to crops were occurring in drier areas late in June, but these were being held in check by the poisoning campaign. A moderately widespread outbreak of grasshoppers has developed in sandy regions of Renfrew and Hastings Counties in eastern Ontario.

Cutworms of several species were reported to be unusually abundant and causing damage to garden, truck, and field crops in parts of every province in the Dominion. A resurgence of these insects occurred in many parts of Canada in 1935. The pale western cutworm is in serious outbreak form in southern Alberta, causing severe losses to grain crops in some areas. Quite severe damage was reported also in sections of Saskatchewan. A considerable outbreak of the red-backed cutworm was reported through much of the northern and east-central part of the Park Belt in Saskatchewan, with resultant damage to field and garden crops. It caused local damage in gardens in southern Manitoba.

Wireworms are proving to be the most serious pest of the year in medium- and light-soil areas of prairie and open-park sections of Saskatchewan. Losses to wheat seeded in summerfallow quite generally ranged from 10 to 50 percent. Infestations have increased markedly in recent years, particularly in idle fields and in districts affected by drought and soil drifting. Infestations are general in many areas of southern Alberta, with damage slight to severe. Wireworms were reported as destructive to grain and other crops locally in southwestern Ontario.

A major flight of June beetles occurred in southern Quebec and much

foliage injury was done to a variety of deciduous trees and shrubs. In sandy and sandy-loam sections of eastern Ontario white grubs are abundant and causing damage to timothy sod.

Heavy infestations of the red turnip beetle have occurred on cruciferous garden plants and weeds in Saskatchewan, west and northwest of Saskatoon, to the Alberta boundary.

For the first time since 1923, material damage to wheat by the western chinch bug was reported in the locality of Madison, in western Saskatchewan. The infestation may be more widespread than indicated by this report.

Crop damage by flea beetles of various species is reported to be widespread in the Dominion.

Large flights of the beet webworm occurred in the three Prairie Provinces, and damage to sugar beets by the larvae is threatened in beet-growing areas.

Injury by the cabbage maggot was reported severe in southwestern Ontario and in the Okanagan Valley, British Columbia.

Orchard insects are generally well under control in the Annapolis Valley, Nova Scotia, but the rosy apple aphid has appeared in injurious numbers in many districts. The green apple bug is also more prevalent than for several years past.

The strawberry weevil was abundant and injurious to strawberries in parts of the Annapolis Valley, Nova Scotia, and on Prince Edward Island.

In the Niagara district, Ontario, weather conditions so far have been unfavorable to the development of the codling moth and oriental fruit moth. Grape leafhoppers are again present in injurious numbers in this district.

Overwintering tarnished plant bugs have caused serious damage in many apple orchards of the Vernon district, British Columbia, by destroying the buds.

Trees and shrubs in many parts of the Dominion again suffered foliage injury from the attacks of tent caterpillars. The eastern tent caterpillar caused defoliation of neglected orchards in sections of eastern Canada. A major outbreak of the forest tent caterpillar developed in Ontario over a wide region north of the Georgian Bay and Lake Superior. Deciduous trees and shrubs were defoliated, houses and gardens were invaded, and trains were delayed during the course of the outbreak, which occasioned much newspaper publicity and considerable public concern. Tent caterpillars were also reported to be unusually numerous in British Columbia.

An extensive outbreak of the jackpine sawfly, apparently Diprion swainei Middleton, is in progress in the Abitibi Lake region of Ontario. A European species, D. frutetorum Fab., found attacking pine in the Niagara district in 1934, shows no further spread and is being brought under control in some areas by imported parasites.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

North Carolina. C. H. Brannon (June 25): Grasshoppers are seriously damaging tobacco in many parts of the State.

Indiana. J. J. Davis (June 22): Grasshoppers (specimens examined are Melanoplus mexicanus Sauss.) have been more abundant throughout the State than for many years. Damage was reported June 14 in St. Joseph and Elkhart Counties. Since that time reports have been received from several other northern counties and in Tippecanoe and Vermillion Counties. In most cases they are breeding in alfalfa fields, completely stripping the alfalfa and migrating to wheat, soybeans, cowpeas, and corn. At present most of them are mature.

Illinois. W. P. Flint (June 22): Heavy infestations of grasshoppers are developing locally throughout the northern three-fourths of the State. The infested areas are not large, running from 10 to several hundred acres; in a few cases to a thousand acres or more. The poison bait has been used very successfully.

Michigan. R. Hutson (June 25): Reports of damage have been received from Vandalia, Cass County, and Hanover, Jackson County. These points are below the generally infested area revealed in the survey last fall.

Wisconsin. E. L. Chambers (June 24): For the first time on record, extremely heavy infestations of grasshoppers are occurring in southern Wisconsin, but are mostly limited to areas of one or two townships. M. mexicanus is nearly mature and is cleaning up crops over large areas. Camnula pellucida Scudd. hoppers have recently hatched. Active control work is being carried on in Douglas, St. Croix, Dunn, Chippewa, Shawano, Langlade, Columbia, Rock, Dane, Green, Jefferson, and Portage Counties.

Minnesota. A. G. Ruggles (June 20): Grasshoppers scarce except in two townships in Todd County, in central Minnesota, where they are abundant.

Iowa. C. J. Drake (June 24): The grasshopper situation is very serious in western and southwestern Iowa. In about 10 counties it now appears that they will destroy at least half of the grain and most of the alfalfa. Over 70 carloads of poison bait have been used, and an effort is being made to obtain 250 more cars. In some of the most heavily infested small grain and alfalfa fields the population ranges from 50 to 200 grasshoppers per square yard. The infestation in the southern half of the State is very spotted. The lesser migratory locust (M. mexicanus) and the two-lined grasshopper (M. bivittatus Say) are the most abundant species, many of which are in the adult state. The differential grasshopper (M. differentialis Thos.) is also very abundant in many localities but did not hatch as early as the other two species.

Missouri. L. Haseman (June 24): The red-legged grasshopper (M. femur-rubrum DeG.) is rapidly maturing, while the differential species is still largely in the nymph stage. In central Missouri there are unbelievable numbers of the Carolina locust (Dissosteira carolina L.) mingled with the two harmful species. Practically every section of Missouri is infested with hoppers and, with the shortage of rainfall, they are already doing serious damage to cultivated crops in some areas.
Correction.-- The note on Schistocerca americana Drury in Missouri in the Bulletin, June 1, 1936, page 98, should read D. carolina.

Arkansas. D. Isely (June 24): Grasshoppers are unusually abundant in northeastern Arkansas, where a considerable acreage of alfalfa is grown. The hoppers are now reported as leaving alfalfa and migrating to corn and cotton.

North Dakota. F. Gray Butcher (June): Grasshoppers have been reported as very abundant in 11 counties and moderately abundant in 13 counties. Some crop injury has occurred in isolated spots, and in such communities considerable quantities of bait have been spread. However, generally over the areas of heavy infestation severe drought has so reduced crop prospects that the farmers are not distributing bait in sufficient quantities to obtain control.

South Dakota. H. C. Severin (June 20): Grasshoppers are more numerous on range and pasture land than they have been during the past 25 years. The ranges and pastures are drying up and the hoppers are moving into what is left of the cultivated crops. The extreme eastern and the extreme southern edge still have a chance for a crop, but even in some of this territory the hoppers are abundant. Some species are already migrating. Many Pardalophora haldemanii Scudd. are attracted to electric lights.

Nebraska. M. H. Swenk (June 20): A survey of the adult population and egg infestation made in 74 counties in September and October 1935 showed that many eggs had been laid in practically all of the counties bordering on the Missouri River, the southern border of the State, and in the western part of the State. The eggs overwintered with low mortality and about May 6 (nearly a fortnight later than normal) they began to hatch all over eastern Nebraska. They continued to hatch out over the State in large numbers during the greater part of May and before the end of that month it was very evident that an extensive and serious outbreak was at hand, rivalling in a number of localities the outbreak of 1934, if not exceeding it. Up to June 20, serious damage has been reported in 46 counties. Between these counties the intensity of the infestation varies greatly, but everywhere serious crop damage is taking place, not only in gardens but in fields of corn and small grains, and especially in fields of young alfalfa. The outlook is very threatening and heavy losses in many counties are probable.

Kansas. H. R. Bryson (June 26): Grasshoppers are very abundant generally, but are causing more damage in the eastern half of the State. In many alfalfa fields the new shoots for the second crop of hay have been seriously damaged. The harvest of the small grains has forced the hoppers to adjoining greener vegetation, usually corn, soybeans, and alfalfa. Early in June adults of M. mexicanus were found and on June 12, adults of M. bivittatus were found in the field at Manhattan. These dates are much earlier than usual for the appearance of the adults of these species. The grasshoppers in many of the fields near Manhattan are heavily parasitized by Sarcophaga kellyi Ald.

Oklahoma. F. A. Fenton (June 23): A very serious outbreak of grasshoppers has developed in Osage, Pawnee, Noble, Payne, Nowata, Lincoln, and Pottawatomie Counties. The infestation is spotted but increasing in 19 other counties in western and northwestern Oklahoma. It is quite likely that the infestations exist in all of the counties of the State, but the outbreak seems to be more serious in the northeastern part. A number of species are involved but M. mexicanus is most prevalent, with M. femur-rubrum next. On the night of June 9 a third species was attracted to lights in a number of cities in the central and northeastern parts of the State, appearing in Bartlesville at about 9 o'clock in the evening and at Stillwater at about 11. Literally thousands of them were blown in by a cold north wind. This species has been tentatively identified as P. halldemani. At present the outbreak is steadily increasing, following the harvest of small grains and cotton, alfalfa, and Irish potatoes--in fact, all growing crops are being seriously damaged or destroyed.

Mississippi. C. Lyle (June 25): M. differentialis was attacking 400 acres of cotton at Sardis on May 28. A prompt application of poisoned bran quickly controlled the infestation.

Utah. G. F. Knowlton (June 11): Seagulls in great numbers were observed following the mowing machine at Benson, eating all of the larger grasshoppers as soon as the alfalfa was cut. In Utah County hoppers are very abundant in the foothills surrounding the farm area at Genola. Adults of Elliott's locust (Aulocara ellioti Scudd.) and Trimerotropus vinculata Scudd. are most abundant at this time. Considerable injury to farm crops is anticipated.

California. S. Lockwood (June 12): C. pellucida, M. devastator Scudd., and Oedaleonotus enigma Scudd. are very abundant in Tehama, Yuba, Yolo, Sacramento, San Joaquin, Mariposa, Tuolumne, and Calaveras Counties. Control campaigns are under way and the damage has been confined largely to native grasses.

EASTERN LUBBER GRASSHOPPER (Romalea microptera Bdv.)

Florida. J. R. Watson (June 22): In Clay County there was a heavy infestation of the lubberly locust. The damage was mostly to summer cover crops, such as cowpeas, but watermelons, cantaloupes, corn, beans, and okra were considerably damaged.

MORMON CRICKET (Anabrus simplex Hald.)

South Dakota. H. C. Severin (June): Mormon crickets have been sent in from 6 localities in western and central South Dakota. In no instance, however, have the crickets occurred in sufficient numbers to warrant control measures.

Utah. C. J. Sorenson (June 19): Mormon crickets have been reported from Uintah County and 5 miles west of Paradise in Cache County.

CUTWORMS (Noctuidae)

Massachusetts. A. I. Bourne (June 25): On May 18 our attention was called to very severe damage by cutworms attacking fields of set onions in Hampshire County. One farm had at least 2 acres so badly damaged that it was a question of whether the crop would be worth carrying through.

Connecticut. W. E. Britton (June): Cutworms are present in vegetable crops in the usual numbers and have caused the usual amount of damage throughout the State.

Indiana. J. J. Davis (June 22): The overflow worm (Agrotis ypsilon Rott.) was abundant in bottom land along the Wabash River, from Clinton south, and along the Ohio River near Evansville.

Wisconsin. C. L. Fluke (June 20): Lined cornstalk borer (Oligia fractilinea Grote) has been found infesting young corn in Brown County.

E. L. Chambers (June 24): Severe cutworm outbreaks have been observed on light, sandy soil throughout the State. Many fields of corn had to be replanted where control measures were not practical. Severe damage was reported to tobacco, garden crops, small grain, and corn during the first 2 weeks of June. About a dozen counties in the central part of the State were supplied with poison for control campaigns.

Minnesota. A. G. Ruggles (June 20): Cutworms are moderately abundant.

North Dakota. F. Gray Butcher (June): Pale western cutworms (Parosagrotis orthogonia Morr.) have been causing considerable damage to cereal crops in the western portion of the State, especially in Burleigh, Morton, Stark, and Burke Counties. There have been several reports of almost complete destruction of large acreages of wheat and other crops. Recent observations indicate that the larvae are practically full grown and further extensive injury is not anticipated.

South Dakota. H. C. Severin (June 20): Cutworm damage was more severe this year than normally. The damage is about over at the present time.

Nebraska. M. H. Swenk (June 20): On May 21 and June 7, respectively, from Hooker and Morrill Counties came reports of the presence of enormous numbers of millers of Chorizagrotis auxiliaris Grote. The variegated

cutworm (Lycophotia margaritosa saucia Hbn.) was defoliating tomato plants in Lancaster County on June 2, stripping gardens in Webster County on June 9, and cutting off pea vines in Loup County on June 11. Cutworm damage was reported from Thurston, Madison, Lancaster, and Cheyenne Counties from May 21 to June 20. In Thurston and Lancaster Counties the worms (A. ypsilon) were cutting the corn below the surface of the ground. The dark-sided cutworm (Euxoa messoria Harr.) was found injuring tomato plants in Lancaster County and potatoes in Knox County.

Mississippi. C. Lyle (June 25): Prodenia ornithogalli Guen. was reported in Learned in cotton and on gladiolus at Ridgeland on May 22.

Utah. G. F. Knowlton (June 6): Cutworms seriously damaged bean patches at Granite and Butlerville in Salt Lake County.

ARMYWORM (Cirphis unipuncta Haw. et al.)

Iowa. C. J. Drake (June 24): Armyworms are doing a considerable amount of damage in Fremont County. One 40-acre field of wheat was totally destroyed.

Nebraska. M. H. Swenk (June): In Lancaster County, during the third week in June the true armyworm was damaging wheat heads in a few instances.

Oklahoma. C. F. Stiles (June 22): Armyworms of undetermined species are reported damaging cotton in Canadian County.

A CABBAGE BUTTERFLY (Pontia monuste L.)

Florida. H. T. Fernald (June 18): The flight this spring appears to have begun about May 10. The butterflies were extremely abundant near New Smyrna on the 10th and by the 14th had appeared at Daytona Beach (west side of Halifax River), but had disappeared on the 16th. On the 19th they appeared on the outer beach on the half-mile-wide key between the river and the ocean, and were continuing on the 24th. All were going north. On June 4 they were very abundant from Indian River City south to Cocoa, flying in a southerly direction.

A TIGER MOTH (Apantesis sp.)

Mississippi. C. Lyle (June 25): An unusual outbreak of Apantesis sp. has occurred in Oktibbeha and Clay Counties. The last previous record was in 1925. The worms were moving out of pastures and destroying adjacent cotton.

WIREWORMS (Elateridae)

North Carolina. C. H. Brannon (June 10): Wireworms are seriously damaging corn in Carteret County and peanuts in Chowan County.

South Carolina. W. J. Reid and C. O. Bare (June 1-8): In the spring of 1936 wireworms (Hoteroderes laurentii Guer., and other species) were again

injurious to the early potato crop of the coastal area. An examination at harvest of 3,023 tubers taken from four fields in the vicinity of Charleston showed that 41 percent of them had been injured by wireworms.

F. F. Bondy and C. F. Rainwater (June): Wireworms (Melanotus sp. and Aeolus sp.) are more abundant than usual on cotton at Florence, and have reduced the stand in some places, especially where corn was grown last year.

Georgia. O. I. Snapp (June 19): J. R. Thomson reports that adults of Mono-crepidius vespertinus Fab. appear to be more abundant than usual in peach orchards at Fort Valley.

Indiana. P. Luginbill (June 10): Several fields of corn near Delphi injured by wireworms, probably Drasterius sp.

Kentucky. W. A. Price (June 25): Wireworms have been destructive to corn and tobacco plants at La Grange, Greenville, and Springfield.

Wisconsin. E. L. Chambers (June 24): Considerable damage to tobacco, corn, and garden crops is being reported from various points in the State.

Missouri. L. Haseman (June 24): We have not had the usual June complaints against wireworms, but a great many farmers are having difficulty with them in patches, particularly in lowlands.

Mississippi. C. Lyle (June 25): Several fields of cotton and corn were being damaged at Morgantown on June 15 by larvae of the sand wireworm (Horistonotus uhlerii Horn). The damage was principally in spots scattered over the fields.

Idaho. R. W. Haagele (June 15): Wireworms are somewhat more damaging than usual, feeding heavily during May on early planted crops such as wheat, corn, and onions. Later plantings, especially of corn were also injured, as the wireworm feeding extended well into June.

Utah. G. F. Knowlton (June 6): Wireworms are damaging young sugar beets and tomatoes in a few fields at Lewiston.

WHITE GRUBS (Phyllophaga spp.)

Pennsylvania. K. Hower (May 29): A beetle has been appearing around Midville in great swarms. (Identified by E. A. Chapin as P. tristis Fab.)

Georgia. O. I. Snapp (June 16): Not so abundant as usual at this time of the year at Fort Valley. A number have been taken from soil under the spread of peach trees, the foliage of which they attacked during the night.

J. M. Robinson (June 2): The brown June bug (P. micans Knoch) has been attacking pecan and white oak trees in groves that have not been

cultivated, and in groves on the uplands near West Point. The beetles were very active the last week of April and the first week of May.

Indiana. J. J. Davis (June 22): White grubs were reported to be heavily infesting lawns at Culver on June 17.

Wisconsin. E. L. Chambers (June 24): Unusually heavy flights of P. tristis were observed throughout the southern part of the State during the latter part of May and the first week of June. Many reports are being received from the counties of the central part of the State, stating that serious damage is being done to strawberry, potatoes, and gardens.

Iowa. C. J. Drake (June 24): Damage by white grubs, brood A, is beginning to show up in cornfields. The infestation is very widespread and extends beyond the eastern half of the State.

JAPANESE BEETLE (Popillia japonica Newm.)

Delaware. L. A. Stearns (June 15): First adults of the Japanese beetle were observed at Newark today.

Pennsylvania. H. E. Hodgkiss (June 23): Adults were beginning to appear during the week of June 15 in the Philadelphia area.

Washington, D. C., and Maryland. B. A. Porter (June 30): Adults of the Japanese beetle are being reported from the District of Columbia and nearby Maryland.

A SCARABAEID (Ochrosidia immaculata Oliv.)

Kentucky. W. A. Price (June 25): Pupation began the last week in May and continued through the second week in June. The first adult was taken on June 7 at a light. A heavy flight of this insect is expected soon in the vicinity of Lexington.

ROSE CHAFER (Macrodactylus subspinosus Fab.)

Maine. H. B. Peirson (June 21): Heavy outbreaks of rose chafers reported from Augusta, Portland, and Wayne, where the beetles were attacking fruit and foliage of apple.

Vermont. H. L. Bailey (June 18): Rose chafers very abundant generally on June 15. Serious problem at Milton, where many young pheasants were killed by eating the beetles.

Masachusetts. A. I. Bourne (June 25): Rose chafer appeared during the week of June 5 to 7, and from all indications it is about as abundant as usual.

Connecticut. E. P. Felt (June 24): The rose chafer has been somewhat abundant in the Stamford area.

New York. R. E. Horsey (June 10): A few rose chafers on peony and rose flowers at Rochester. No noticeable damage.

N. Y. State Coll. Agr. News Letter (June): Rose chafers are very abundant and injurious in orchards in the Hudson River Valley and in western New York.

Michigan. R. Hutson (June 20): Rose chafers have been reported as damaging grapes and peaches in Berrien, Ottawa, Van Buren, Clinton, Shiawassee, Oceana, Genesee, Kalamazoo, Sanilac, Montcalm, Isabella, and Saint Clair Counties.

COMMON RED SPIDER (Tetranychus telarius L.)

Georgia. T. L. Bissell (June 6): The red spider is very abundant on and injurious to oak trees at Experiment. The mites are working on the upper surfaces of the leaves.

Ohio. E. W. Mendenhall (June 10): The red spider is very abundant on arbovitae stock in the nursery at Xenia, causing some damage.

Kentucky. W. A. Price (June 25): Red spiders are common and destructive over the State generally.

Tennessee. G. M. Bentley (June 20): Red spider is present generally over the State, attacking a large variety of ornamentals. We have had several complaints of its attacking boxwood.

Missouri and Kansas. H. Baker (June 24): The common red spider, which has been a serious pest in apple orchards in this section the last 2 years, is difficult to find in orchards.

Mississippi. C. Lyle (June 25): On account of the severe drought throughout the northern and central parts of Mississippi this month, red spider injury has been severe. The southern part of the State, with more rainfall, has apparently suffered less.

Utah. G. F. Knowlton (June 6): Red spiders are damaging raspberries, strawberries, and dewberries at Pleasant Grove and Linden.

CEREAL AND FORAGE - CROP INSECTS

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

- New York. N. Y. State Coll. Agr. News Letter (June 15): Hessian fly has done considerable damage to the wheat in some sections of Genesee County. Three fields that have been observed are infested practically 100 percent.
- Ohio. T. H. Parks (June 25): The wheat-insect survey has started in the southern and central counties, where six counties have been visited. The average percentage of stems infested in four southwestern counties is 20.5 percent and for the two central counties is 12.4 percent. No lodging of straws has occurred and practically no commercial damage.
- Indiana. C. M. Packard (June 16): Severe spring infestation and injury to many wheat fields seen in Posey and Gibson Counties. Much broken-over straw. Fly now mostly in flaxseed stage.
- Iowa. C. J. Drake (June 24): Very light infestations throughout southern Iowa but no commercial damage.
- Missouri. L. Haseman (June 24): Owing to the unusual weather, the spring brood did comparatively little damage in the State, and many farmers have harvested fair yields in fields that looked like a complete loss last fall. The spring brood has been about as abundant in the northern third of the State as in the southern two-thirds, where it was so threatening last fall. There is sufficient fly in wheat stubble over most of the State to seriously threaten early seeded wheat this fall. Fortunately, parasitization of flaxseeds in some areas is quite high.

WHEAT STEM MAGGOT (Meromyza americana Fitch)

- Iowa. H. E. Jaques (June 22): The wheat stem maggot is to be found in many rye and wheat fields.
- Kansas. H. R. Bryson (June 23): Wheat stem maggot is more abundant than usual this year.

A BILLBUG (Calendra sp.)

- Kansas. H. R. Bryson (June 26): The wheat billbug caused a considerable amount of wheat to go down in some fields west of McPherson. This is of considerable interest because the insect is also found in some of the adjoining grasses, especially Agropyron smithii.

CORN

CHINCH BUG (Blissus leucopterus Say)

- Virginia. H. W. Walker (June 24): Chinch bugs were reported by the county

arent as seriously injuring corn in Northampton County.

North Carolina. C. H. Brannon (June 27): Infestation of chinch bugs is generally heavy over the eastern and Piedmont sections of the State, for the first time in over a decade.

Ohio. T. H. Parks (June 11): Very few chinch bugs are present in the wheat fields and we anticipate no damage to corn. Young bugs hatched on June 11.

Indiana. D. W. La Hue (June 18): A survey of Tippecanoe County shows chinch bugs scarce in most wheat fields. Old bugs are disappearing. All stages of first brood, from eggs to fourth-instar nymphs, are now present.

Illinois. W. P. Flint (June 22): The weather during June has been almost ideal for chinch bug development. There will be no general outbreak in the State, but many scattered infestations occur throughout the central and, particularly, the west- and southwest-central parts of Illinois. Fields that were even lightly infested early in the season are producing many more bugs than in an average year.

Wisconsin. E. L. Chambers (June 24): As indicated by the survey made late last fall, there will apparently be little damage this summer, although the dry season is very favorable for chinch bugs. Limited serious outbreaks have been observed near Plum City, in Pierce County.

Iowa. C. J. Drake (June 24): Chinch bug damage is beginning to show up in about 10 southern counties. In most cases the bugs will not leave the small-grain fields until after the grain is cut. The infestation is very spotted, but a light population may be found in many southern and southeastern counties.

Missouri. L. Haseman (June 24): From central Missouri south the annual migration of chinch bugs from small grain to corn is now pretty well over, but in the northern counties migration is still in full swing. The heavy movement of bugs during the month has been particularly noticeable from Kansas City south to Joplin and in a northeasterly direction across to St. Louis and Hannibal, with some heavy epidemics in north-central Missouri. On some farms the bugs have been fully as abundant as in 1934, but heavy infestations have been more scattering.

Nebraska. M. H. Swenk (June 20): Chinch bugs appeared in injurious numbers in the small-grain fields of Richardson County in extreme southeastern Nebraska early in June, and 2,000 gallons of creosote were used in three townships in that county between June 4 and June 18. No serious infestations have been reported outside of Richardson County.

Kansas. H. R. Bryson (June 23): The chinch bug infestation in the vicinity of Manhattan is much lighter than it has been since 1934. In southeastern Kansas the bugs did considerable injury to the small grain on

the uplands earlier in the season. Enough bugs are present to warrant the construction of barriers.

Arkansas. D. Isely (June 24): Scattered local outbreaks of chinch bugs have been reported from the northern part of the State.

Oklahoma. F. A. Fenton (June 23): Chinch bugs have appeared in several of the counties in the State and are now migrating from small grains to corn. Although not widespread, the infestation is more serious than it has been since 1934.

C. F. Stiles (June 20): There is a section consisting of about five counties in east-central Oklahoma that is very heavily infested. Rainfall there has been only about half the normal amount. Large populations have been built up and the bugs are moving from small-grain to row crops. About a half carload of oil, that we have had in reserve, is being used to construct barriers; however, this will only partly meet the demand.

HAIRY CHINCH BUG (Blissus hirtus Montd.)

Massachusetts. E. P. Felt (June 24): The hairy chinch bug was recorded as occurring in large numbers in a lawn at Lenox.

STALK BORER (Papaipema nebris nitela Guen.)

Indiana. J. J. Davis (June 22): The stalk borer was reported to be attacking corn at La Fayette and tomato at La Porte on June 16. In both places the borers were quite small, i.e., not over $\frac{1}{2}$ inch long.

Minnesota. A. G. Ruggles (June 20): The stalk borer is moderately abundant in Minnesota.

Iowa. H. E. Jaques (June 22): The common stalk borer seems to be more than usually abundant throughout the State.

Missouri. L. Haseman (June 24): During the month we have had numerous complaints of stalk borers from almost every section of the State. At this time they are about half grown.

Nebraska. M. H. Swenk (June 17): A Thurston County correspondent reported the common stalk borer working on tomato stems.

Kansas. H. R. Bryson (June 11): The common stalk borer is reported injuring tomatoes at Brookville and White City, corn at Leavenworth and Clyde, and potatoes at Mulberry.

CORN EAR WORM (Heliothis obsoleta Fab.)

New Jersey. T. J. Headlee (June 24): Small numbers of larvae are now present in the field in the southern counties of the State. The infestations are

not so severe as at this time last year. Observations were made in several sweet-corn fields in Monmouth and Middlesex Counties on June 22, but no larvae were seen.

Alabama. J. M. Robinson (June 24): Corn ear worms are abundant in corn and are also attacking tomatoes in central and southern Alabama.

Mississippi. C. Lyle (June 25): Nearly all Plant Board inspectors have reported considerable damage to tomatoes.

Kansas. H. R. Bryson (June 23): Corn ear worm is causing considerable injury to the curl of field corn and the young ears of early sweet corn.

California. A. E. Michelbacher (June 20): Eggs were found in central California about June 1 on tomato plants. Eggs can now be found in most tomato fields and in places a careful examination will reveal a few small larvae. An examination of the tomato fields about Visalia showed that the amount of fruit infested ranged from less than 1 to 7 percent. On June 4 near Brentwood one corn field was examined and about 10 percent of the ears were found to be infested. In other fields in the same area not more than 1 percent of the ears were infested. Some of the larvae were nearly mature.

WEBWORMS (Crambus sp.)

Indiana. J. J. Davis (June 22): Webworms were reported to be damaging corn the first half of June in several localities in the northwestern quarter of the State.

Missouri. L. Haseman (June 24): Sod webworms were very troublesome last month, but they apparently ran their cycle by the early part of June.

SUGARCANE BEETLE (Euthcola rugiceps Lec.)

North Carolina. C. H. Brannon (June 25): The rough-headed corn stalk beetle is damaging corn over a wide area in the State.

Tennessee. G. M. Bentley (June 20): Specimens of the rough-headed cornstalk beetle were sent in from many parts of the State together with specimens of injured corn plants. In some years this insect proves to be a very serious pest, and reports received indicate that the injury this year will be serious.

Kentucky. W. A. Price (June 25): Rough-headed cornstalk beetles ruined a 10-acre field of corn at Mayfield.

Alabama. J. M. Robinson (June 24): At Malone the rough-headed cornstalk borer is seriously attacking several acres of corn. This insect is also active in Cullman County, particularly at Hanceville.

Mississippi. C. Lyle (June 25): The rough-headed cornstalk beetle has caused unusually heavy damage this spring in the northern half of Mississippi.

SOUTHERN CORN LEAF BEETLE (Myochrous denticollis Say)

Nebraska. M. H. Swenk (May 26): Specimens of the southern corn leaf beetle were sent in on May 26 from Washington County, where they were reported to be doing considerable damage to young corn plants just coming through the ground. This is the first record for Nebraska of this pest's damaging corn.

IMBRICATED SNOOT BEETLE (Epicaerus imbricatus Say)

Wisconsin. C. L. Fluke (June 20): Found large numbers of imbricated snout beetles injuring corn at Monroe on May 23.

FIELD CRICKET (Gryllus assimilis Fab.)

South Dakota. H. C. Severin (June 21): The black field cricket has done considerable damage to germinating corn in central and western South Dakota. Replanting of some entire fields was necessary.

SORGHUM

A FALSE WIREWORM (Eleodes sp.)

Oklahoma. C. F. Stiles (June 22): I find that one of the false wireworms has been doing enormous damage to the rowed sorghums in Beaver County. It seems that the adults at this time are causing most of the damage.

ALFALFA

ALFALFA WEEVIL (Hypera postica Gyll.)

Nebraska. M. H. Swenk (June 13): Specimens collected in western Nebraska have been identified by A. G. Boving and L. L. Buchanan.

Idaho. R. W. Haegle (June 15): The alfalfa weevil is present in southwestern Idaho. Damage to first crop is moderate and scattered. The parasite Bathyplectes curculionis Thos. is very abundant. At Parma on June 11, just before cutting of the first crop, 100 sweeps of a 12-inch net yielded 297 weevil larvae and 521 adults of the parasite.

F. H. Shirck (June 1): Alfalfa weevil is more abundant in the Parma district than in any previous season since 1930. No severe injury appears to have been caused to the first cutting of alfalfa.

Utah. C. J. Sorenson (June 10): Some damage apparent by alfalfa weevil, which is moderately abundant in Millard County.

California. A. E. Michelbacher (June 20): The larval population of the alfalfa weevil has slightly increased during the month. In several fields as many as 200 can be collected to 100 sweeps of an insect net. The increase is probably due to the fact that some of the early brood have matured. Parasitization by Bathyplectes is falling off rather rapidly. The decrease is most marked in the San Joaquin Valley.

F R U I T I N S E C T S

ROSE LEAF BEETLE (Nodonota puncticollis Say)

New York. N. Y. State Coll. Agr. News Letter (June): Rose leaf beetles are damaging fruit in the Hudson River Valley.

Maryland and Virginia. W. H. White (June 3): During the latter part of May and the early part of June many reports have been received regarding the abundance of the rose leaf beetle to rose, peonies, azalea, raspberry, and strawberry in parts of Maryland and Virginia adjacent to the District of Columbia.

West Virginia. L. M. Peairs (June 18): This chrysomelid has done a lot of damage to apples and other fruits. We have it from the Eastern Panhandle, where it is generally distributed, and from as far west as Lewis County. (Det. by H. S. Barber as Nodonota, probably puncticollis.)

A CHRYSOMELID (Gastroidea aenea Molsh.)

Virginia. W. J. Schoene (June 25): This leaf beetle was very abundant during the last week of May and the first week of June. It ate holes in the sides of many apples and was very abundant in roses and other flowers. It has accounted for about as much injury to fruit as the worst of our early season pests.

FLAT-HEADED APPLE TREE BORER (Chrysobothris femorata Oliv.)

Georgia. T. L. Bissell (June 25): Borers have done very little injury to pecan trees at Milner and Macon the past year, in comparison to injury in the same orchards in previous years.

Missouri. L. Haseman (June 24): The adult was on wing throughout June but no activity of the larvae has been noted on trees visited by the beetle.

Nebraska. M. H. Swenk (May-June): Reports of injury to fruit and shade trees were received during the last 2 weeks of May, and the first 2 weeks of June from Douglas, Washington, Dodge, Seward, Buffalo, and Hayes Counties.

A FLOWER THRIPS (Frankliniella occidentalis Perg.)

California. S. Lockwood (June 12): The blossom thrips has been responsible for considerable scarring to stone fruit in Contra Costa, Solano, Placer, and Tulare Counties.

PLANT BUGS (Lygus spp.)

Michigan. R. Hutson (June 25): The tarnished plant bug (L. pratensis L.) has been reported as very abundant on peaches from Albion, Howell, Grand Rapids, Fennville, Sodus, and Hartford.

Connecticut. P. Garman (June 19): L. caryae Knight and other species are present in some orchards but not so abundant as they were last year.

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

- New York. D. W. Hamilton (June 22): At Poughkeepsie peak moth captures in light and bait traps occurred on the nights of June 1 and 2. Since then activity seems to have gradually tapered off. First-brood larvae began entering the fruit on June 6. Peak entrances occurred from June 10 to 14. At present the infestation appears to be about normal. Low temperatures and rains have prevented extensive adult activity on many nights.
- New Jersey. T. J. Headlee (June 24): Emergence this year began 10 days earlier than last year. The prospects now are for a full second brood and a partial third in southern New Jersey.
- Delaware. L. A. Stearns (June 23): First-brood injury at this date is lighter than at any time since 1929. First-hatched larvae are already mature.
- Pennsylvania. H. E. Hodgkiss (June 23): First-brood larvae were first seen going into apples in Cumberland and Franklin Counties on June 18 and 19. The entries had been made since June 11.
- Maryland. E. N. Cory (June 25): Emergence in Washington County was considerably delayed on account of cool weather.
- Ohio. T. H. Parks (June): Moths have been caught in the bait pans at Columbus almost daily from May 16 to June 21. Heaviest flight occurred between May 30 and June 5. First entrances were noticed on June 9, the same date on which entrances were noticed in Ottawa County.
- Indiana. J. J. Davis (June 22): Codling moth is noticeably increasing in the southern half of the State. Unfavorable conditions during the season of 1935 and the past two winters reduced the insect to almost negligible numbers. However, conditions for the first 1936 brood have been favorable and the population has built up to threatening numbers. For record we are summarizing life-history records, these at Bicknell, Elberfeld, and Vincennes, by L. F. Steiner, and those at Orleans by G. E. Marshall. First pupae were found at Elberfeld on April 10; at Bicknell on April 13. First moth at Elberfeld on April 30; in traps at Bicknell on May 4; at Orleans in out-of-door emergence cage on May 4, in packing shed on May 5, and in bait trap on May 7 (last year, first moth bait trap on May 8). First eggs laid in insectary at Vincennes, under normal out-of-door conditions on May 7, began hatching on May 14. At Orleans the first eggs hatched on May 21. First larval entries at Vincennes were observed on May 19. First larvae left apple to pupate at Orleans on June 8 and at Bicknell on June 10.
- L. F. Steiner (June 11): Practically no moth activity either at Vincennes or Bicknell for the past 10 days. Mature larvae began leaving apples at Bicknell on June 10. In most orchards where the codling moth

produced the least injury in many years last season it is now back to its normal abundance. The light-to-moderate crop at Elberfeld is nearly 40 percent damaged. (June 22): Damage by first-brood larvae is as severe at Vincennes as has been observed for several years, despite a subnormal carryover from 1935.

Illinois. W. P. Flint (June 22): In southern Illinois the codling moth has developed so rapidly that it is now nearly as abundant as it was in the spring of 1934, although the last-winter carry-over was the lowest in 6 years.

Kentucky. W. A. Price (June 25): In some orchards, particularly in the Henderson district, there is a heavy infestation. A normal carry-over with a reduced crop this year has resulted in a larger number of worms entering individual fruits. Some apples have as many as five worm entrances.

L. F. Steiner (June 11): Mature larvae began leaving apples at Henderson about June 2. Now they are leaving in large numbers. The injury is almost 40 percent, and in some orchards it appears even worse.

Michigan. R. Hutson (June 20): A full flight of moths occurred on June 5 at Hartford, Milburg, and Saint Joseph. (June 25): Larvae are fairly abundant and are from $\frac{1}{4}$ to $\frac{3}{8}$ inch long at Mason, Albion, Vandalia, and Buchanan.

Tennessee. G. M. Bentley (June 20): Where timely sprays have not been made, the codling moth is doing damage generally over the State, the injury being in small home orchards.

Georgia. C. H. Alden (June 22): At Cornelia first-brood moths have been emerging in large numbers, starting June 19.

Missouri. L. Haseman (June 24): Moths of the second brood began emerging in extreme southeastern Missouri on June 14 and 15, and in central and southwestern Missouri by June 19 and 20. In the northern part of the State they have been a few days later than in central Missouri.

H. Baker (June 24): First-brood damage was generally light at Saint Joseph, except in some poorly sprayed orchards. First-brood moths were taken in bait traps beginning June 18, or about a week earlier than expected.

Nebraska. M. H. Swenk (June): Larval mortality at Lincoln was about 91 percent last winter. Spring-brood moths began emerging about May 11 and first-brood eggs were being deposited by May 30. All first-brood larvae had pupated by June 13. The first complaint of damage was received from Buffalo County during the first week in June.

Kansas. H. R. Bryson (June 24): Second-brood adults are beginning to emerge. Population is building up from a low carry-over of last winter. A third

brood will be present this year, whereas only two broods were present last year.

Utah. C. J. Sorenson (June 19): The codling moth is very abundant in Cache and Utah Counties.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

Maine. H. B. Peirson (June): Throughout Maine the insect is much less abundant than in 1935.

Massachusetts. A. I. Bourne (June 25): Tent caterpillars began to hatch about the 9th or 10th of April and have been unusually abundant, fully as abundant as they were last year, particularly in the eastern part of the State.

Connecticut. W. E. Britton (June 22): The eastern tent caterpillar was just about as prevalent as last year in certain localities in southern Connecticut, but much less so in northern Connecticut. Many caterpillars died from "wilt" and many were parasitized.

New York. R. D. Glasgow (June 17): The eastern tent caterpillar, which has apparently reached its maximum abundance this year in many parts of eastern New York, has been reduced by a wilt disease in parts of Albany County and elsewhere.

R. E. Horsey (June): Eastern tent caterpillar was abundant in a territory extending to 10 miles south of Rochester on May 31.

Pennsylvania. R. M. Baker (June 9): First adults appeared in Clark's Valley on June 6. The infestation was spotted this year, indicating a decline in population in some sections of the State.

FRUIT TREE LEAF ROLLER (Cacoecia argyrospila Walk.)

Ohio. T. H. Parks (June): Apple leaf roller is more abundant than usual in all parts of Ohio. In some orchards it has disfigured a high percentage of the fruits.

LEAF CRUMPLER (Mineola indigenella Zell.)

Alabama. J. M. Robinson (June 2): The larva of the leaf crumpler was reported attacking apple trees at Uriah on May 9. Adults emerged on May 20. They were reported as being serious pests to apple in that area.

EYE-SPOTTED BUDMOTH (Spilonota ocellana Schiff.)

Massachusetts. A. I. Bourne (June 25): We found budmoth to be rather more abundant than usual on the fruit crops.

New York. N. Y. State Coll. Agr. News Letter (June): Quite an infestation of budmoth developed in a few localities in western New York.

FRUIT APHIDS (Aphidae)

Massachusetts. A. I. Bourne (June 25): We noted that apple aphids in orchards at Amherst were hatching as early as March 28, owing to warm weather.

Connecticut. P. Garman (June 19): Rosy apple aphid (Anuraphis roseus Bak.) is very abundant in some orchards. The outbreak, however, is by no means general. A decided increase took place from June 1-15, but migration is now well under way.

New York. N. Y. State College Agr. News Letter (June 29): The rosy aphid has built up to serious proportions in many orchards in Niagara County and is also causing concern to orchardists in Monroe and Wayne Counties.

New Jersey. T. J. Headlee (June 24): Infestation of the green apple aphids (Aphis pomi DeG.) began showing up in some orchards by June 10. The infestation in some orchards, where growth of foliage was active, has reached a point where sprays are advisable.

Pennsylvania. H. E. Hodgkiss (June 23): The rosy apple aphid has caused fruit injury in many orchards throughout the State, but no commercial damage has been done. The green apple aphid is reported to have started on water sprouts during the week of June 15.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

New York. N. Y. State Coll. Agr. News Letter (June 22): Flies began emerging from trap areas in the vicinity of Poughkeepsie on June 17. The first emergence for the Hudson Valley is at least 4 days earlier this year than it was in 1935.

APPLE CURCULIO (Tachypterellus quadrigibbus Say)

Vermont. H. L. Bailey (June 18): Adults of apple curculio were found on apple at Montpelier on June 8.

Ohio. T. H. Parks (June): Specimens of apple curculio with injured fruit were received from Hamilton County with the statement that the insect is injurious in several orchards.

Indiana. J. J. Davis (June 22): Apple curculio has been noticeably more abundant throughout the State than for many years.

Missouri. L. Haseman (June 24): During the first week in June a very severe epidemic of apple curculios showed up in northeastern Missouri, extending from Elsberry north through Clarksville and Louisiana to Hannibal. Less noticeable outbreaks were also observed at Macon and Chillicothe. There was practically no evidence of the insect at Columbia and in the other important orchard centers of the State. Near timber, fruits on many trees were damaged practically 100 percent, with from 1 to 100 punctures to the apple. The attack largely subsided by the 15th of the month.

A SCARABAEID (Pachystethus marginata Fab.)

North Carolina. C. H. Brannon (June 25): Seriously damaging apple leaves and fruit in an orchard in western North Carolina.

EUROPEAN RED MITE (Paratetranychus pilosus C. & F.)

Massachusetts. A. I. Bourne (June 25): European red mite has been very abundant in many orchards and seems to be giving more trouble this year than usual.

Connecticut. P. Garman (June 19): European red mite is present in some locations and is abundant in a few orchards.

PEACH

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Vermont. H. L. Bailey (June 18): Adults of the plum curculio were found on apples at Montpelier on June 8.

Connecticut. P. Garman (June 19): Plum curculio is from moderately abundant to severe in some orchards in New Haven County.

Rhode Island. A. E. Stone (June 22): Plum curculio apparently more abundant than during the past two seasons.

New York. N. Y. State Coll. Agr. News Letter (June): The plum curculio is causing more damage than usual in some orchards in western New York.

Georgia. O. I. Snapp (May 28): The first new beetles of the season emerged today from soil in the laboratory at Fort Valley. May 28 was also the emergence date of the first new beetle in the laboratory last year. (June 12): New beetles are now emerging in numbers from the soil in commercial peach orchards at Fort Valley. Recent thundershowers have facilitated their escape from the soil after a long drought. We took 96 new beetles from 24 trees in a commercial orchard today where there were practically no beetles last week. (June 18): The first eggs of the second generation were recorded yesterday. Eggs were obtained from 2 of 156 individual pairs examined. These pairs emerged on June 2 in the laboratory, somewhat earlier than in the field. (June 19): The infestation at Fort Valley continues to be less than that of an average year. No trouble from a second brood is anticipated in varieties ripening before the Elberta.

C. H. Alden (June 22): The peak of first-brood emergence occurred in the Thomaston section on June 9. The first curculio was caught on June 16 at Cornelia; peak emergence has not occurred there yet.

Tennessee. G. M. Bentley (June 20): The two-month drought and the plum curculio attack on unsprayed orchards have caused a heavy drop of plums and peaches. This, however, is true only of the uncared-for trees.

Indiana. J. J. Davis (June 22): Plum curculio is more abundant than usual throughout the State. Injury was observed only a few days after petal fall in southern Indiana, during the week of May 3.

Minnesota. A. G. Ruggles (June 20): Plum curculio has been moderately abundant.

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica soror Lec.)

California. H. C. Donohoe (June 1): A grower in the vicinity of Fresno reports that the western twelve-spotted cucumber beetle is seriously damaging ripe early peaches. It attacked home vegetables and ornamental garden plants more severely than in a normal year.

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Georgia. T. L. Bissell (June 9): Infestation of peach trees by bark beetles at Griffin is very noticeable in some orchards. The beetles bore into the base of leaf clusters and of fruit pedicels, killing the leaves. Injury is traceable to the improper disposal of peach prunings. A report of plum, similarly infested comes from Columbus.

Alabama. J. M. Robinson (June 2): In Double Springs peach trees were dying from winter injury and shot-hole borers were attacking the dying trees.

A CURCULIONID (Sitona prominens Csy.)

Georgia. O. I. Snapp (June 19): These beetles are more abundant at Fort Valley than usual. They have the habit of congregating on peaches in the depression around the stem.

ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

Connecticut. P. Garman (June 19): The first generation of the oriental fruit moth is extremely scarce.

New York. N. Y. State Coll. Agr. News Letter (June): Twig injury has been observed in orchards in Monroe and Orleans Counties.

Delaware. L. A. Stearns (June 23): Parasitization of first-brood larvae is below normal. The first second-brood eggs were deposited on June 17, and the first second-brood larvae hatched on June 21.

New Jersey. G. J. Haussler (May 18): First-brood larvae began entering peach twigs in the vicinity of Moorestown about May 14, approximately 2 weeks earlier than last season. In several orchards in Burlington County infested twigs are already fairly abundant and the first-brood infestation is considerably more severe than that of 1935. (May 26): The first-brood infestation is very light at Glassboro and Richwood, in Gloucester County, and at Lawrenceville and Glenmore, in Mercer County.

Maryland. H. W. Allen (May 16): Infestation of peach twigs by first-brood larvae was observed to be from light to moderate in the vicinity of Salisbury.

Virginia. H. W. Allen (May 12-14): Infestation of peach twigs by first-brood larvae was observed to be heavy in the vicinity of Lovington; moderate at Bonsac, Cloverdale, Winchester, and Washington; and light at Crozet, Waynesboro, Staunton, and Timberville.

Georgia. O. I. Snapp (June 19): The infestation is lighter than usual. It is confined to home orchards in and near Fort Valley.

T. L. Bissell (June 24): A small number of peach shoots were found infested with larvae today at Rover, in Spalding County.

Ohio. T. H. Parks (June): Peach trees were very slow to recover from the severe winter injury and have shown more than the usual degree of infestation. There are no peaches, except a light crop in the lake-shore counties.

Indiana. J. J. Davis (June 22): Injury is rather conspicuous throughout the State.

Illinois. W. P. Flint (June 22): Large numbers of second-brood moths emerged in the southern part of the State. The hot weather hardened the twigs of the peach earlier than usual and many of the young larvae are dying in attempting to enter.

Kentucky. W. A. Price (June 25): The oriental fruit moth is now very abundant in peach twigs.

Tennessee. G. M. Bentley (June 20): A general infestation is noticeable. The second brood is just beginning to appear.

Missouri. L. Haseman (June): Second-brood worms in some orchards have appeared in unusual numbers during the month, destroying the tips of most of the young succulent growth.

Mississippi. C. Lyle (June 25): More injury has been observed during June than in May; however, the damage this season is much less than last year.

PEACH BORER (Aegeria exitiosa Say)

Delaware. L. A. Stearns (June 17): Peach tree borer infestation is rather scarce throughout Hale blocks but adjoining blocks of Elberta and Golden Jubilee peaches are lightly infested.

Georgia. O. I. Snapp (June 19): Pupation, which started at Fort Valley unusually early this year, has been retarded by the drought.

A MIRID (Lopidea robiniae Uhler)

Mississippi. C. Lyle (June 25): Bugs were causing serious injury to peaches at Pickens on June 17. They were spreading from black locust trees to the peaches.

PEAR

PEAR PSYLLA (Psyllia pyricola Foerst.)

Connecticut. P. Garman (June 19): Pear psylla is present generally but so far not abundant, except in an occasional orchard.

New York. N. Y. State Coll. Agr. News Letter (June): The pearpsylla is very abundant in the Hudson River Valley, where much damage is anticipated. The insect is less abundant in western New York.

CHERRY

CHERRY FRUIT FLIES (Rhagoletis spp.)

New York. N. Y. State Coll. Agr. News Letter (June): Cherry fruit fly emergence has run as follows in a cage operated jointly by Columbia and Dutchess Counties: R. fausta O.S. was found in an orchard on May 26 and another individual was not found until June 2. No more fruit flies emerged in the cage until June 4, when 2 R. cingulata Loew emerged. On June 5, 2 flies emerged; on June 6, 2; on June 8, 10; on June 10, 8; on June 11, 10; and on June 12, 47. All R. cingulata. The heavy emergence on June 12 was preceded by showers on the evening of the 11th and in the early morning of the 12th. Emergence did not begin in the cage until the day after showers, which occurred on June 3.

Michigan. R. Hutson (June 20): The dark-bodied cherry fruit fly (R. fausta) appeared at Gobles on June 3; at Niles on June 14; at Grand Rapids on June 6; at Hart on June 12; at Beulah and Benzonia on June 16; and at Traverse City on June 17. The white-banded cherry fruit fly (R. cingulata) appeared at Niles on June 4; at Coloma, Fennville, and Grand Rapids on June 6; and at Traverse City on June 17.

BLACK CHERRY APHID (Myzus cerasi Fab.)

New York. N. Y. State Coll. Agr. News Letter (June 8): Black aphids are very abundant in Ulster County on sweet cherries where no spray was applied, and also abundant on sour cherries, especially Early Richmond, in some plantings.

Indiana. J. J. Davis (June 22): M. cerasi was very abundant in sweet cherry orchards at Bristol visited on June 19.

UGLY-NEST CATERPILLAR (Cacoecia cerasivorana Fitch)

Massachusetts. A. I. Bourne (June 25): The ugly-nest cherry worm was very

abundant throughout the eastern part of the State. Its work was very conspicuous as far west as central Worcester County.

CHERRY LEAF BEETLE (Galerucella cavicollis Lec.)

Michigan. R. Hutson (June 20): The cherry leaf beetle has been reported from Onaway, Bellaire, Boyne City, Iron Mountain, Cheboygan, Potoskey, Cadillac, and Traverse City.

PLUM

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Oklahoma. C. F. Stiles (June 20): The cottony-cushion scale has been reported on plum trees from Washita County. The infestation is quite heavy in some places.

RASPBERRY

RASPBERRY SAWFLY (Monophadnoides rubi Harr.)

Michigan. R. Hutson (June 20): The raspberry sawfly is exceedingly abundant in the vicinities of Monroe, Adrian, and Ann Arbor.

GRAPE

GRAPE ROOT WORM (Fidia viticida Walsh)

Delaware. L. A. Stearns (June 17): Adults of the grape root worm are abundant in several vineyards at Camden. The 10-day spray is being applied.

GRAPE PLUME MOTH (Oxyptilus periscelidactylus Fitch)

Massachusetts. A. I. Bourne (June 25): The grape plume moth was the cause of more complaints from all sections of the State during the latter part of May than we usually receive.

New York. N. Y. State Coll. Agr. News Letter (June 1): Grape plume moth was abundant on Ulster County grapes that had been neglected.

Ohio. E. W. Mendenhall (May 30): The grape plume moth is found in and about Columbus.

DATES

NAVEL ORANGE WORM (Myelois venipars Dyar)

Arizona. D. F. Barnes (May 5): Larvae in dates collected near Tempe in November 1935 by K. B. McKinney, D. F. Barnes, and Perez Simmons produced adults which have been identified by C. Heinrich. Larvae were found in dates on the palms but were much more abundant in fallen dates.

T R U C K - C R O P I N S E C T S

FALSE CHINCH BUG (Nysius ericae Schill.)

- Michigan. R. Hutson (June 25): The false chinch bug has been causing some damage on strawberries in the vicinity of Fennville and South Haven.
- Wisconsin. E. L. Chambers (June 24): Nursery inspectors report the false chinch bug very abundant in central Wisconsin strawberry patches.
- Minnesota. A. A. Granovsky (June 22): False chinch bug infesting cornfields in Wadena County.
- North Dakota. J. A. Munro (June): Field-crop injury is subsiding.
- South Dakota. H. C. Severin (June): A terrific outbreak of false chinch bug has occurred in South Dakota. Crops attacked are garden crops, small grains, flax, alfalfa, sweetclover, fruit trees, and berries. Bugs are attracted in immense numbers to electric lights. In front of store windows they could be scooped up by handfuls.
- Nebraska. M. H. Swenk (June 20): The common false chinch bug was reported as attacking corn in Fillmore County on June 16.
- California. S. Lockwood (June 12): Sporadic but localized outbreaks of the false chinch bug have occurred on grapes in Napa, Sacramento, and Merced Counties and have caused small loss to young tomato plants in Sacramento County.
- C. K. Fisher and D. F. Barnes (June 11): False chinch bugs were doing some damage on May 13--enough to necessitate treatment in spots in a young vineyard 10 miles southeast of Fresno. Some leaves were entirely killed by bugs.

FLEA BEETLES (Halticinae)

- New York. N. Y. Coll. Agr. News Lotter (June 15): Flea beetles are becoming serious in the western part of the State.
- Michigan. R. Hutson (June 20): The triangle flea beetle (Disonycha triangularis Say) has been exceedingly abundant on spinach and other garden crops at East Lansing, Lake Odessa, Fremont, Clarksville, Grand Rapids, and Charlotte.
- Ohio. T. H. Parks (June): The pale-striped flea beetle (Systema taeniata blanda Melsh.) is quite injurious in several northwestern Ohio counties and is reported feeding upon young corn, tomatoes, and sugar beets.
- Indiana. J. J. Davis (June 22): The pale-striped flea beetle has been very abundant and destructive to tomato plantings throughout the northern half of the State, reports being received on June 8 and every day since that date. Several reports of injury to field and sweet corn have also been

received. While most reports are from the northern half of the State, one report from North Vernon reports damage to corn. The sinuate flea beetle (Phyllotreta vittata Fab.) was abundant in alfalfa at Winamac about June 10.

Illinois. W. P. Flint (June 22): Pale-striped flea beetles have been abundant throughout the northern two-thirds of the State. It has been attacking corn, soybeans, garden beans, and some other crops.

Missouri. L. Haseman (June 24): Recently one of the common black flea beetles usually found feeding on bullnetties has been attacking potatoes very heavily and doing much damage to the foliage.

Nebraska. M. H. Swenk (June 19): A complaint was received on June 19 from Franklin County, stating that the western cabbage flea beetle (P. pusilla Horn) was damaging the leaves of radishes and kohlrabi.

Utah. G. F. Knowlton (June 18): Flea beetles are seriously damaging young tomato plants at Logan. Only moderate damage to sugar beets in fields examined this spring.

BLISTER BEETLES (Meloidae)

North Carolina. C. H. Brannon (June 15): Blister beetles are unusually abundant on potatoes this year.

South Dakota. H. C. Severin (June): Garden crops, leaves of trees and bushes, alfalfa, sweetclover, and potatoes are the main crops being attacked over much of the State. Damage is severe.

Kansas. H. R. Bryson (June 22): Blister beetles, Epicauta sp., apparently are quite numerous this year and are causing considerable injury to garden crops. Reports of injury to potatoes have been received from Fredonia, Clay Center, and Wamego. Garden crops in general were reported injured at Onaga, Hazelton, Manhattan, and Sedan.

YELLOW WOOLLY BEAR (Diacrisia virginica Fab.)

Nebraska. M. H. Swenk (June): Woolly bears were repeatedly reported eating the leaves of rhubarb, lettuce, beets, and other garden plants in Lancaster and Washington Counties during the third week in June.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

Wisconsin. E. L. Chambers (June 24): Seed corn maggots are unusually severe in many southern counties requiring replanting beans and corn in a great many places.

POTATO AND TOMATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

- Indiana. J. J. Davis (May 28): Adults are damaging tomatoes at Frankfort.
- Minnesota. A. G. Ruggles and assistants (June): The Colorado potato beetle is from moderately to very abundant in the southern third of the State.
- Iowa. H. E. Jaques (June): Very abundant in places in the west-central part of the State.
- Missouri. L. Haseman (June 24): The Colorado potato beetle has been more abundant on many patches than for many years. On the other hand, they seem to be scattered, as other patches have scarcely been touched.
- Tennessee. G. M. Bentley (June 20): A small number found in commercial Irish potato-growing sections of the State.
- Idaho. R. W. Haegeler (June 15): Numerous infestations are appearing again in Canyon County. There has been no injury since 1934.

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

- Vermont. H. L. Bailey (June 18): Potato flea beetles generally abundant.
- Connecticut. N. Turner (June 24): Causing the usual amount of damage to potatoes.
- Indiana. J. J. Davis (June 22): The potato flea beetle was damaging potatoes at Linton early in the month.
- Minnesota. A. G. Ruggles (June 20): Potato flea beetle is from moderately to very abundant on potatoes and tomatoes.
- Nebraska. M. H. Swenk (June): The potato flea beetle was reported damaging tomato plants in Thurston County on June 1, attacking potato plants in Richardson County on June 10, and doing injury to bean and cucumber plants in Sheridan County on June 12.

WESTERN POTATO FLEA BEETLE (Epitrix subcrinita Lec.)

- Washington. R. S. Lehman (June): The western potato flea beetle is doing considerable damage to the seedlings and the young tomato plants set out in the field. Some of the growers have had their seedlings destroyed before they noticed that germination had taken place.

POTATO APHID (Illinoia solanifolii Ashm.)

- New Jersey. T. J. Headlee (June 24): There is a general infestation on tomatoes and potatoes throughout the State, but the number of aphids per plant is still small.

Virginia. H. G. Walker (June 24): The pink and green potato aphid has been very scarce in the Norfolk area this spring.

TOMATO PINWORM (Gnorimoschema lycopersicella Busck)

Virginia. H. G. Walker (June 24): The tomato pinworm had been rather abundant for the past 2 years in a local greenhouse that had been growing late fall and early spring crops of tomatoes. The late fall crop was omitted last year and there has been no evidence of pinworms in the spring crop this year.

Mississippi. C. Lyle and assistants (June 25): A complaint of the tomato pinworm in tomato was received from New Augusta, Perry County on June 10. Damage in the trucking sections of Covich and Lincoln Counties is lighter than usual.

HORNWORMS (Phlegethontius spp.)

New Jersey. T. J. Headlee (June 24): The first moths of P. quinquemaculata Haw. and P. sexta Johan. were observed on June 5 feeding on nectar-producing flowers. P. sexta was more abundant. Several tomato and pepper fields were examined during the week of June 15-20 and 75 percent of the plants in some fields in Cumberland, Atlantic, and Salem Counties contained one or more eggs.

California. A. E. Michelbacher (June 20): A few horn worms can be found in many tomato fields in central California. Many of these are reaching maturity.

BEANS

MEXICAN BEAN BEETLE (Epilachna varivestis Muls.)

Connecticut. N. Turner (June 24): Eggs were found as early as May 25 in southern Connecticut. Apparently not as abundant as in 1935.

New York. N. Y. State Coll. Agr. News Letter (June): The bean beetle was observed the first week in June on Long Island. By the last week of the month larvae were appearing in Suffolk County and adults were causing considerable injury in Chautauqua County.

New Jersey. T. J. Headlee (June 24): Injury does not seem to be as severe as it was this time last season. Very few growers have had to apply treatments.

M. Kisliuk (June 12): Mr. Kostal has noted that the Mexican bean beetle has been much less abundant on garden beans at Morganville, in Monmouth County, than at any time during the past five seasons.

Pennsylvania. C. D. Thomas (June 10): Bean beetles plentiful and very destructive on beans at Emerald.

- Virginia. W. J. Schoene (June 25): The most unusual occurrence is the scarcity of the Mexican bean beetle in many sections of the State. At Blacksburg beans will mature with practically no injury. Apparently beetles are still emerging from hibernation.
- North Carolina. C. H. Brannon (June 26): Serious damage is just beginning to appear generally over the State.
- South Carolina. C. O. Bare (June 18): Five locations in plots totalling about one-third acre of beans at the Truck Experiment Station farm at Charleston were found to be infested with larvae and adults. About 2 weeks prior to this a dead beetle had been found among cabbage leaves. This is the first season that this insect has been found on the farm.
- Georgia. C. H. Alden (June 15-22): Very abundant on unsprayed beans around Cornelia.
- Tennessee. G. M. Bentley (June 20): The beetle is less noticeable this year in all parts of Tennessee than it has been for several years.
- Mississippi. C. Lyle and assistants (June 25): The first noticeable damage at Aberdeen was found on May 23. A complaint was received from Hattiesburg on June 3. An infestation was found at Purvis, Lamar County, on June 19, this being a new county infested by spread from Hattiesburg. The beetles were quite abundant at Laurel, Jones County, on June 8, its first appearance in that town.
- Ohio. E. W. Mendonhall (June 22): The Mexican bean beetle is causing much damage.
- Indiana. J. J. Davis (June 22): Mexican bean beetle is beginning to show up in some localities, but is not as injurious as in 1935. First observed on beans at Lafayette on May 27.

PEAS

PEA APHID (Illinoia pisi Kalt.)

- New York. N. Y. State Coll. Agr. Weekly News Letter (June 8): Hugh Glasgow reports that the pea aphid is developing rapidly in Ontario County, some fields being already heavily infested, and it looks very much as if we are going to have a repetition of the trouble we had last year. I have found fields where from 60 to 70 percent of the plants are infested, and infestations of from 20 to 40 percent are not uncommon. R. D. Morgan reports that in Genesee County it is not hard to find lice in the pea fields, although the infestation is not serious.
- Michigan. R. Hutson (June 20): The pea aphid is numerous at Fremont, Owosso, Lake Odessa, Saginaw, and St. Johns.

Wisconsin. E. L. Chambers (June 24): Extremely heavy losses from the pea aphid to canning peas of the early crop just being harvested are reported from all sections of the State.

Missouri. L. Haseman (June 24): In spite of the recent drought and hot weather, quite a sprinkle of the common pea aphid has recently appeared on garden peas at Columbia. The ladybeetles, however, have been very active in keeping them under control.

Kansas. H. R. Bryson (June 23): Reported causing injury to garden peas at Ozawakie.

Mississippi. C. Lyle (June 25): Serious damage to English pease was reported from Beach on May 26.

Utah. G. F. Knowlton (June 25): Pea aphids have seriously damaged one field of canning peas in North Logan, and damage to peas is rather general in northern Utah. Large numbers of aphids are dispersing from pea fields in the Weber County area to tomatoes and other crops. This condition is causing considerable local worry. (June 28): Injury to peas becomes more serious daily throughout northern Utah. Some commercial patches have been ruined. This is the most serious outbreak in more than 11 years.

ZEBRA CATERPILLAR (Mamestra picta Harr.)

Indiana. J. J. Davis (June 22): Zebra caterpillar larvae about $\frac{1}{4}$ inch long were abundant on garden peas at Fort Wayne on June 16 and were riddling foliage of gladiolus at Greenfield on June 15.

CABBAGE

CABBAGE INSECTS (Lepidoptera)

Virginia. H. G. Walker (June 24): The cabbage looper (Autographa brassicae Riley) and the larvae of the diamond-backed moth (Plutella maculipennis Curt.) have been very scarce this spring around Norfolk.

South Carolina. W. J. Reid and C. O. Bare (June 24): Although retarded to a considerable extent by adverse weather during the winter and early spring, the populations of the three more important species of green worms that attack cabbage in this locality--the diamond-back moth, the cabbage looper, and the imported cabbage worm (Ascia rapae L.)-- became so numerous during May and the early part of June as to cause severe damage to the late plantings of cabbage. In experimental plantings the yield of Grade 1 cabbage was reduced from approximately 50 to 90 percent. In relative abundance the species occurred in the order named, from most to least abundant. One hundred and six larvae of the diamond-back moth, 12 cabbage loopers, and 10 imported cabbage worms were known to have developed to the pupal stage on single plants (not the same plants).

Mississippi. C. Lyle (June 25): The cabbage looper was reported on May 30 at Morton, was fairly abundant at State College at the same time and is reported by Inspector L. J. Goodgame as giving considerable trouble to cabbage in northern Mississippi.

IMPORTED CABBAGE WORM (Ascia rapae L.)

Virginia. H. G. Walker (June 24): The imported cabbage worm has been more abundant around Norfolk and caused more damage during the past month than it has in the past 4 years.

Pennsylvania. H. E. Hodgkiss (June 23): The second-brood adults of the imported cabbage worm are very abundant.

Tennessee. G. M. Bentley (June 20): There is very heavy infestation of imported cabbage worm noticed generally over the State this year.

Missouri. L. Haseman (June 24): The imported cabbage worm seemingly got a late start this year, but during the latter half of June has been unusually abundant. We have had complaints from most sections of the State.

Nebraska. M. H. Swenk (May 29): Cabbage worms were found attacking cabbage in Seward County on May 29.

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

Pennsylvania. H. E. Hodgkiss (June 23): Root maggot has been unusually serious in radish plantings.

Indiana. J. J. Davis (June 22): Cabbage maggot reported damaging cabbage at Indianapolis on June 2.

Wisconsin. E. L. Chambers (June 24): The cabbage maggot continues to be a major truck-crop pest in cabbage-growing areas in southeastern Wisconsin and small gardeners report it more abundant than usual.

CABBAGE APHID (Brevicoryne brassicae L.)

Virginia. H. G. Walker (June 24): The cabbage aphid has been rather abundant on cabbage and seed kale at Norfolk but the outbreak is beginning to die out.

Tennessee. G. M. Bentley (June 20): Cabbage aphid continues to be present on cabbage in large numbers throughout the State.

Missouri. L. Haseman (June 24): During the first 2 weeks in June many gardeners and farmers lost much of their early cabbage from plant lice. About the middle of the month, however, they began to clear up.

Nebraska. M. H. Swenk (June 8): On June 8 a Nance County correspondent reported the cabbage aphid working on his cabbage.

A WEEVIL (Ceutorhynchus assimilis Payk.)

Washington. J. Wilcox and W. W. Baker (May 27): C. assimilis is abundant on seed cabbage and other crucifer seed crops at Mt. Vernon, in Skagit County and also in the northwestern part of Snohomish County. The seed men and farmers are very much concerned and are seriously considering control.

Oregon. J. Wilcox and W. W. Baker (May 27): C. assimilis was taken at Orenco in Washington County this year.

MELONS

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

New York. N. Y. State Coll. Agr. Weekly News Letter (June 22): Numerous and destructive in Niagara County.

Virginia. H. G. Walker (June 24): Striped cucumber beetles were moderately abundant and injuring cucurbits in the Northern Neck of Virginia on June 5; however, this insect has not been nearly so destructive as it was last year.

Alabama. J. M. Robinson (June 2): The larva of Diabrotica sp., probably vittata, was attacking watermelon plants at Tuscaloosa on May 7.

Wisconsin. E. L. Chambers (June 24): Reports that the cucumber beetle is unusually abundant are coming in from all sections of the State.

Minnesota. A. G. Ruggles and assistants (June): The striped cucumber beetle is from moderately to very abundant in some places in southern Minnesota.

South Dakota. H. C. Severin (June 21): Striped cucumber beetle attacking cucumbers generally. Much more abundant than usual.

Missouri. L. Haseman (June 24): Small numbers of spotted and striped cucumber beetles suddenly appeared from June 20 to 25 at Columbia.

Nebraska. M. H. Swenk (June): The striped cucumber beetle was reported damaging cucurbits in Thurston, Lancaster, and Greeley Counties during the first 3 weeks of June.

CARROT BEETLE (Ligyrus gibbosus DeG.)

Delaware. L. A. Stearns (June 10 and 18): Serious damage to cantaloupes and sunflowers at Seaford on June 10 and to sunflowers and marigolds at Greenville on June 18. Specimens of adults collected at Seaford were heavily parasitized.

MELON WORM (Diaphania hyalinata L.)

Georgia. T. L. Bissell (June 22): The melon worm is seriously damaging squash at Experiment.

PICKLE WORM (Diaphania nitidalis Stoll)

Georgia. O. I. Snapp (June 26): Although cantaloupes will not start to ripen until next week, the pickle worm has appeared on green melons in a 3-acre patch at Powersville.

Mississippi. C. Lyle (June 25): Complaints of injury have been received from Yazoo City, Starkville, Pascagoula, and Jackson.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

Georgia. T. L. Bissell (June 22): The squash bug is seriously damaging squash at Experiment.

Kansas. H. R. Bryson (June 23): Squash bugs quite abundant this year. Have been laying eggs for 2 weeks.

Mississippi. C. Lyle and assistants (June 25): The squash bug is rather abundant. It is reported from Hollandale, Washington County, and also from Harrison County. A heavy infestation was noted at Kiln, Hancock County, late in May.

Missouri. L. Haseman (June 24): Although we have received a few complaints from gardeners throughout the State, this pest has been unusually scarce this month.

SQUASH BORER (Melittia satyriniformis Hbn.)

Georgia. T. L. Bissell (June 22): The squash vine-borer is seriously damaging squash at Experiment.

Mississippi. H. Gladney (June 25): Some damage by the squash vine borer has been observed in Harrison County.

Louisiana. T. E. Snyder (June 3): Larvae collected on beans on a farm near Pollock have been identified by C. Heinrich as M. satyriniformis. He says: "Bean is an unusual food plant."

CELERY

CARROT WEEVIL (Listronotus latiusculus Boh.)

New Jersey. T. J. Headlee (June 24): The parsley stalk weevil has caused considerable damage to celery on the muck soils in Bergen County this spring. This is the first time this species has been recorded as injurious in New Jersey. The infestation is quite general in the Hackensack area. Injury occurs in fields where growth ranges from newly set plants to those ready to harvest. Infestation counts from several fields revealed that from 15 to 40 percent of the plants were injured. Young plants were killed outright, and older ones rendered unfit for market.

ASPARAGUS

A CUTWORM (Euxoa excellens Grote)

Washington. J. Wilcox and W. W. Baker (May): E. excellens is injuring asparagus at Sumner, in Pierce County. An examination of a small plot of the worst infested part of a planting of 18 acres showed that 100 percent of the stalks had been attacked on May 25. The planter said that he has had similar damage for many years but never as severe as this. Some hills have a dozen larvae.

ASPARAGUS BEETLE (Crioceris asparagi L.)

Washington. C. W. Getzendaner (May 29): Adults, eggs, and larvae have been found at Sumner. Damage is already apparent and beetles were found on nearly every plant. They are much more numerous than last year when the beetle was first discovered in this locality.

ASPARAGUS MINER (Agromyza simplex Loew)

Washington. J. Wilcox and W. W. Baker (May 28): Flies were observed on asparagus plants at Sumner, in Pierce County, but no damage was found. Flies were mating.

ONIONS

ONION THRIPS (Thrips tabaci Lind.)

Connecticut. N. Turner (June 24): Appeared early in June on onions, much earlier than usual.

New Jersey. T. J. Headlee (June 24): Onion thrips have caused very little damage to early onions in southern New Jersey. The early crops are now being harvested. Several complaints have come in of thrips on seed onions in the muck sections of northern New Jersey.

Michigan. R. Hutson (June 25): The onion thrips is beginning to appear in onion fields about Marshall.

ONION MAGGOT (Hylemyia antiqua Meig.)

Pennsylvania. H. E. Hodgkiss (June 23): The onion maggot has caused much damage, especially in the western counties.

Michigan. R. Hutson (June 25): Onion maggot has been reported as abundant at East Lansing, Howell, and Marshall.

A MIRID (Labopidea allii Knight)

Iowa. C. J. Drake (June 24): The onion mirid did considerable damage in small onion fields in southeastern Iowa. In Bloomfield some small patches of onions were almost destroyed.

CARROT

CARROT RUST FLY (Psila rosae Fab.)

New York. N. Y. State Coll. Agr. Weekly News Letter (June 22): Maggot injury has been found in several late celery plant beds in Wayne County. Injury is most severe on the beds planted on muck that grew celery last year.

Washington. A. J. Hanson (May 28): Carrot rust fly is very serious in the Puget Sound district and is spreading every year. This pest has made it difficult to produce carrots for market in this section. (Det. by C. T. Greene).

STRAWBERRY

STRAWBERRY LEAF ROLLER (Ancylis comptana Froel.)

Wisconsin. E. L. Chambers (June 24): The strawberry leaf roller has been favored by dry weather and has been a major strawberry pest. A recent tour of inspection revealed that it is more prevalent than usual. Many requests for control measures are likewise being received.

Tennessee. G. M. Bentley (June 4): The strawberry leaf roller is reported to be doing damage at Dayton.

Nebraska. M. H. Swenk (June): Reports of damage to strawberry plants by the strawberry leaf roller were received from Gage and Custer Counties on May 23 and June 4, respectively.

Kansas. H. R. Bryson (June 20): Very abundant in northeastern Kansas, in the vicinities of Troy and Wathena.

Utah. G. F. Knowlton (June 11): First generation becoming abundant at Providence; moths still moderately abundant. (June 20): Strawberry leaf rollers are damaging strawberry foliage in Cache Valley.

STRAWBERRY CROWN BORER (Tyloclerma fragariae Riley)

Kentucky. W. A. Price (June 25): The strawberry crown borer is abundant in some patches in the Paducah area.

SPINACH

SPINACH LEAF MINER (Pegomyia hyoscyani Panz)

Connecticut. N. Turner (June 24): Serious damage to seed beets at Mount Carmel in the southern part of the State.

Pennsylvania. H. E. Hodgkiss (June 23): Spinach leaf miner very abundant. In Fayette County it is especially abundant in the valleys but does not occur at higher elevations.

Michigan. R. Hutson (June 20): The beet leaf miner is very numerous on sugar beets at Holland and moderately abundant on spinach at Fremont and Lake Odessa.

New York. M. Kisliuk (June 12): Since May 15 a progressive increase in the population of the spinach leaf miner on Long Island and in other rural centers near New York City has been noted. At first the infestation was hardly noticed but by June 10 a number of carloads had been rejected and nearly 100 percent of the spinach tops were found to have numerous maggots.

New Jersey. M. Kisliuk (June 12): E. Kostal remarked that this leaf miner is exceptionally severe in garden spinach, Swiss chard, and beet tops at Morganville, Monmouth County.

GREEN PEACH APHID (Myzus persicae Sulz.)

Pennsylvania. H. E. Hodgkiss (June 23): The green peach aphid has caused serious damage on spinach in the Philadelphia area.

RHUBARB

RHUBARB CURCULIO (Lixus concavus Say)

Pennsylvania. H. E. Hodgkiss (June 23): Rhubarb curculio has been generally abundant throughout the State.

Indiana. J. J. Davis (June 22): The rhubarb curculio has been frequently reported as damaging rhubarb. Reports received from May 13, at frequent intervals, to June 18. All reports have come from the northern half of the State, except one from Bedford, Lawrence County.

MINT

MINT FLEA BEETLE (Longitarsus waterhousei Kutsch.)

Michigan. R. Hutson (June 20): The mint flea beetle is causing considerable damage in Berrien County.

BEETS

BEET WEBWORM (Loxostege sticticalis L.)

Utah. G. F. Knowlton (June 25): Large numbers of moths are coming to light traps at Logan, Tremonton, Hooper, Clinton, Syracuse, Pleasant Grove, and Spanish Fork.

Wyoming. M. Greenwald (June 22): Millers were very numerous at Powell up to June 15, after which date they dropped off gradually in numbers. Worms are now numerous enough in some sugar beet fields to warrant spraying.

BEAN APHID (Aphis rumicis L.)

California. S. Lockwood (June 12): The bean aphid is more prevalent than usual in the Sacramento River Delta. They were numerous enough to shorten the crop of horse beans, and they migrated into sugar beets after the horse beans became dry. It is doubtful whether 800 acres of sugar beets in this region will withstand the attack made by these aphids.

SWEETPOTATO

SWEETPOTATO SAWFLY (Sterictophora cellularis Say)

Delaware. P. L. Rice (June 18): Very abundant in small area near Laurel, in Sussex County.

TORTOISE BEETLES (Cassidinae)

Delaware. P. L. Rice (June 10-18): Metriorhiza bivittata Say is present in varying abundance in most fields in the Laurel-Seaford section. Injury severe in a few fields.

Alabama. J. M. Robinson (June 2): Tortoise beetles, M. bicolor Fab., M. bivittata, and Chirida guttata Oliv., were reported as attacking sweet-potato vines at Fairhope on May 6.

Mississippi. C. Lyle (June 25): The tortoise beetle (Chirida guttata) was attacking sweetpotatoes at New Albany on June 13.

C O T T O N I N S E C T S

BOLL WEEVIL (Anthonomus grandis Boh.)

Mississippi. C. Lyle (June 20): Infestation is very light throughout the northern and central parts of the State.

Oklahoma. C. F. Stiles (June 20): So far no weevils have emerged from the hibernation cages at Eufaula, where we have 25,500 in hibernation. This is the first year in the past 4 that weevils have not overwintered.

F. A. Fenton (June 23): The boll weevil has appeared in fields in the southeastern part of the State, being observed in McCurtain and Choctaw Counties. The infestation is spotted and light and no damage is being done.

Texas. F. L. Thomas (June 12): First-generation weevils now may be found in southern and central Texas and are already causing considerable injury. In one field of Victoria County, 75 percent of the squares were punctured, and in Matagorda County, 20 percent. Although little cotton is grown in the vicinity of Dimmit County, in one field examined 81 percent of the squares were found to be infested. (June 19): Boll weevils have been

found in Kaufman and Smith Counties in northern and northeastern Texas. They occurred at the rate of 50 per acre in Kaufman County. In 5 counties of southeastern Texas the infestation was 16 percent, with a maximum of 38 percent in Matagorda County. In 8 counties of southern Texas the average infestation on 11 farms was 15 percent, with a maximum of 40 percent in Jackson County. (June 26): The average infestation was 24 percent on 10 farms in the southern part and 27 percent on 7 farms in southeastern part of the State. This is an increase of 9 and 11 percent, respectively, over the infestation reported the previous week.

COTTON LEAF WORM (Alabama argillacea Hbn.)

Texas. F. L. Thomas (June 12): Full-grown cotton leaf worms were found last week in Nueces County and half-grown specimens in San Patricio County. (June 19): The second-generation moths are now flying. The worms have been reported from Jim Wells County and as far up the coast as Matagorda County. (June 26): The first leaf worms to be reported in central Texas were found in the Brazos Bottoms of Burleson County on June 17.

APHIDS (Aphidae)

North Carolina. C. H. Brannon (June 26): Cotton is heavily infested with aphids over a wide area of the State.

Mississippi. C. Lyle (June 25): During the latter part of May and the early weeks of June, many fields of cotton in the southern part of the State were rather heavily infested with the cotton aphid (Aphis gossypii Glov.). With warm weather and an abundance of predators, the aphids have practically disappeared.

F. A. Fenton (June 23): Unusually prevalent on cotton at chopping time throughout most of the State and in some cases killed the plants, necessitating replanting. Most of the plants, however, had fully recovered by the end of the month.

COTTON FLEA HOPPER (Psallus seriatus Reut.

Mississippi. C. Lyle (June 25): Infestation in the vicinity of State College is very light. The insect is present on several farms in the Delta and central part of the State.

Oklahoma. F. A. Fenton (June 23): Reports have been received of the presence of the cotton flea hopper. Injury at present seems to be centered in the southeastern part of the State in the counties along the Red River, especially in Bryan County.

Texas. F. L. Thomas (June 5): The average number of flea hoppers hatching from 100 croton weeds in May was more than double the number hatching during any previous May for the past 10 years. (June 12): Flea

hoppers are increasing in southern and east-central Texas, but have not been found on cotton in northern Texas. (June 19): Reports have been received from 69 farms in 25 counties where control demonstrations are being conducted. These counties extend from Jim Wells, in the south, to Grayson, in northern Texas. Flea hoppers are present on 51 of the farms and are causing injury on 33. (June 26): Fleahoppers are more widely distributed than during last week, but are in smaller numbers on cotton in the State as a whole. However, their numbers increased and more than doubled on the farms examined in Ellis, Grayson, and Kaufman Counties, in northern Texas, but only in Grayson and Kaufman were they sufficiently numerous to be injurious. Increased numbers were also found on farms in Brazoria, DeWitt, Matagorda, Refugio, and Victoria Counties, but in 8 other counties along the coast and in 3 counties examined in central Texas there was a reduction in the number of flea hoppers.

A TENEBRIONID (Blapstinus sonora Csy.)

Arizona. T. P. Cassidy (May): This beetle caused considerable damage to cotton in parts of the Salt River Valley of Arizona in May by cutting off the seedlings near the surface of the ground. (Det. by E. A. Chapin.)

THRIPS (Thysanoptera)

Alabama. H. C. Young and T. Thompson (June): A severe outbreak of thrips (species not determined) is occurring on cotton at Cullman. The damage varies, but all fields show injury and in some from 50 to 75 percent of the terminal buds have been killed.

Mississippi. E. W. Dunnam and J. C. Clark (June 6): Thrips are causing some ragging in almost all fields. They are numerous in our experimental plats, blasting the buds in 10 percent of the plants after thinning. (June 20): Thrips are very plentiful in the cotton fields of Washington County and damage is apparent.

F O R E S T A N D S H A D E - T R E E I N S E C T S

CANKERWORMS (Geometridae)

Maine. J. V. Schaffner, Jr. (June 12): A large area of oak and maple woodland between Biddeford and Kennebunk was severely injured by the fall cankerworm (Alsophila pometaria Harr.).

Massachusetts. A. I. Bourne (June 25): Cankerworms were more abundant than usual generally over the State and their work was quite conspicuous at many points. A serious outbreak was found in southern Berkshire County, where the insects caused almost complete defoliation of many of the large elms, particularly south of Great Barrington and along the Connecticut Border.

Connecticut. W. E. Britton (June 22): Many elm and oak trees have been defoliated by the spring cankerworm (Paleacrita vernata Peck.), particularly in the northern and western parts of the State. Such a severe outbreak has not occurred in these sections in recent years, and property owners were unprepared for it. Specimens have been received from Bridgeport, Danbury, Litchfield, and Waterbury. Fall cankerworms have, as usual, been prevalent in the southern part of the State and some orchard, shade, and woodland trees have been defoliated.

New York. R. D. Glasgow (June 17): Cankerworms (both species) have defoliated shade trees in parts of Albany County. The fall cankerworm has been much less abundant in Westchester County this year than during the last 4 or 5 years.

M. Kisliuk (June 12): On May 30 severe damage to the foliage of various forest trees, particularly oak and maple, by the spring cankerworm was noted at the various New York State parks on Long Island. Many of the trees were nearly 75 percent defoliated and the larvae were so numerous that after a 5-minute walk through some of the forest lanes a person could pick from 25 to 100 larvae from his clothing.

New Jersey. H. W. Allen (May 24): A heavy infestation of cankerworms, with complete defoliation of some oak and hickory noted on wooded hills north of Princeton.

Ohio. T. H. Parks (June): Fall cankerworms and other species of span worms have caused serious defoliation of shade trees in western Ohio. While elms have been most seriously defoliated, hackberry oak, hickory, and maple are also affected. Some injury has also occurred to forest trees in northeastern Ohio.

J. N. Knull (May 29): There is a severe infestation of cankerworms in the vicinity of Clifton, in Greene County. Many elm and apple trees are entirely defoliated. Honeylocust, wild cherry, and white oak also show severe defoliation. Calosoma willcoxi Lec. was present in large numbers feeding on the larvae.

- Indiana. J. J. Davis (June 22): Spring cankerworms were more abundant and destructive in northern Indiana than for many years. Unsprayed apple orchards were commonly defoliated; among the shade trees, elm was most often defoliated.
- Illinois. C. L. Metcalf (June 24): A threatening outbreak of fall cankerworm was reported from Cook and Lake Counties the last of May and the first of June. Apple, elm, hackberry, maple, oak, and hickory were being defoliated. Larvae submitted the first of June were approximately half grown.
- Michigan. R. Hutson (June 20): The fall cankerworm has been very abundant in south-central Michigan. Elms were badly defoliated.
- Wisconsin. E. L. Chambers (June 24): Shade trees, principally elm, maple, oak, and basswood, have been defoliated in large areas all over the State by A. pometaria.
- Iowa. C. J. Drake (June 24): Cankerworms (three or four species) have defoliated many elm and other trees throughout a large part of Iowa.
- Nebraska. M. H. Swenk (June): The spring cankerworm was reported to be damaging elm trees in Howard and Custer Counties.
- FOREST TENT CATERPILLAR (Malacosoma disstria Hbn.)
- Maine. H. B. Peirson (June): Very severe outbreaks in southwestern, eastern, and northern Maine. East and north of Mt. Katahdin an area of 60,000 acres was defoliated.
- New Hampshire. J. V. Schaffner, Jr. (June 4): At East Andover a severe infestation was noticed in a forest of mixed hardwoods.
- Vermont. H. L. Bailey (June 18): Forest tent caterpillars completely defoliating many maple sugar orchards and street tree maples and some elms in the southern half of the State. Many dead larvae were seen on tree trunks in Addison County, apparently the result of wilt disease. Cocoons were found in considerable numbers on June 11. Pupation occurred from 1 to 2 weeks earlier than last year.
- Massachusetts. A. I. Bourne (June 25): Tent caterpillars began to hatch about the 9th or 10th of April and have been unusually abundant, fully as abundant in the eastern part of the State as they were last year. Leaf injury has been considerable.
- Connecticut. W. E. Britton (June 22): In Windsor, on June 4, moderate numbers of caterpillars were observed resting on the trunks of oak trees but leaf injury was slight. Gypsy moth scouts report this insect very abundant in the vicinity of Union City and Stafford. M. P. Zappe observed them as numerous in Canaan, Litchfield, Salisbury, Sharon, and Thompsonville.

New York. R. D. Glasgow (June 17): The forest tent caterpillar has been very abundant on shade trees in Albany, and on shade and forest trees in many places in eastern New York. Many trees have been defoliated in and about Keene and Keene Valley in Essex County.

N. Y. State Coll. Agr. News Letter (June 8): Tent caterpillars of the forest-tree species are abundant in many prune and apple orchards in Niagara County.

Michigan. R. Hutson (June 20): The forest tent caterpillar is abundant over the northern end of the Lower Peninsula and the eastern half of the Upper Peninsula.

Minnesota. A. G. Ruggles (June): The northern third of the State, with the exception of Red River Valley, is overrun with M. disstria. In the Arrowhead section around Ely and Tower they are very abundant, but the eastern end of Cook County has the worst devastation ever seen there. Everything is alive with caterpillars. Poplar is the choice food in this county, while basswood is the choice in Ottertail County.

FALL WEBWORMS (Hyphantria spp.)

Maine. H. B. Peirson (June 15): Moths of the fall webworm (H. textor Harr.) are flying at Houlton.

Maryland. G. Myers (June 25): The fall webworm has appeared on several fruit and shade trees with several webs on each tree at Avery, $2\frac{1}{2}$ miles east of Rockville. Several caterpillars, which were almost grown and had evidently fallen from a tree, were feeding on the leaves of hollyhock.

Georgia. O. I. Snapp (June 25): Fall webworms are appearing on pecan trees at Fort Valley.

Alabama. J. M. Robinson (June 24): The first brood of fall webworms has appeared on pecans at Auburn, Seale, and Pittsview.

Mississippi. C. Lyle (June 25): The fall webworm was reported to be rather generally distributed in the southeastern part of the State by June 15.

SATIN MOTH (Stilpnotia salicis L.)

New Hampshire. L. H. Werthley (June 16): District inspectors report heavy feeding by larvae in southern and central New Hampshire, and a considerable increase in the number of larvae of this species, as compared with last year.

Connecticut. W. E. Britton (June 22): All poplar trees in Waterbury and one in Bridgeport reported to be infested.

BEECH

BEECH SCALE (Cryptococcus fagi Baer.)

Maine. H. B. Peirson (June 12): Heavy infestations of the beech scale are occurring in Washington County.

CARAGANA

A BLISTER BEETLE (Pyrota engelmanni Lec.)

Nebraska. M. H. Swenk (May 21): Specimens of Engelmann's blister beetle were received from Box Butte County on May 21, having been taken from caragana trees, which they were injuring.

ELM

ELM LEAF BEETLE (Galerucella xanthomelaena Schr.)

New Hampshire. J. V. Schaffner, Jr. (June 13): Adults of the elm leaf beetle were very common on elm foliage at Hampton on June 2.

Massachusetts. J. V. Schaffner, Jr. (June 13): Adults issued from hibernation in large numbers at Woburn between May 8 and 22. P. A. Berry notes that the infestations at North Attleboro, Middleboro, Weymouth, and Woburn still persist and that adults, eggs, and larvae were observed in these localities from June 8 to 10. Severe infestations have occurred here for the last 4 or 5 years.

Delaware. L. A. Stearns (June 16): Report of injury and specimens at Laurel.

Pennsylvania. H. E. Hodgkiss (June 23): The elm leaf beetle is very destructive. In Franklin County eggs are being laid and are hatching.

Tennessee. G. M. Bentley (June 20): Elm leaf beetle has appeared in several elm trees in the city parks of Nashville.

Ohio. T. H. Parks (June 8): No serious damage has come from this insect, but newly hatched larvae were observed feeding at Columbus on June 8.

Indiana. J. J. Davis (June 22): The elm leaf beetle was reported on June 20 as defoliating large elms on a farm 6 miles southwest of Corydon, Harrison County. This is the first authentic report of this insect in Indiana since we began keeping records in 1920. This is the third year of defoliation by these insects, according to the report received.

Idaho. R. W. Haegle (June 15): Severe infestations in most communities of southwestern Idaho, necessitating the spraying of elms. Larvae have been hatching since the last week in May.

California. C. S. Morley (June 4): Considerable injury to elm trees caused by the elm leaf beetle.

MOURNING-CLOAK BUTTERFLY (Hamadryas antiopa L.)

- Maine. H. B. Peirson (June): Light infestation of spiny elm caterpillar at Augusta on elm.
- Massachusetts. E. P. Felt (June 24): Spiny elm caterpillar was reported as somewhat injurious on a Pittsfield estate.
- Wisconsin. C. L. Fluke (June 20): Spiny elm caterpillar is unusually abundant this spring in the vicinity of Madison, Dane County.
- South Dakota. H. C. Severin (June 21): The caterpillar of the mourning-cloak butterfly is much more abundant than usual in the eastern part of the State.
- Utah. G. F. Knowlton (June 11): Larvae have partially defoliated a number of Siberian and American elm trees at Logan.

WOOLLY ELM APHID (Eriosoma americanum Riley)

- Rhode Island. A. E. Stene (June 22): Woolly aphids on elms have been unusually abundant this season, probably owing to a long period of warm, dry weather.
- Wisconsin. E. L. Chambers (June 24): Elm leaves infested with the woolly aphid received in large numbers from all sections of the State. Lack of rain has apparently given them an unusually favorable season for their development.
- Nebraska. M. H. Swenk (June): Numerous reports of injury to elm trees by the woolly elm aphid were received from May 21 to June 20, chiefly from Washington, Boone, Howard, Hall, Valley, Holt, and Hayes Counties.

EUROPEAN ELM SCALE (Gossyparia spuria Mod.)

- New York. R. D. Glasgow (June 17): The European elm scale is reported as abundant on elms in parts of Bronxville and also in parts of Albany.
- R. E. Horsey (June): European elm scale was common and noticeable on twigs and branches of a number of elms in Rochester.
- Ohio. T. H. Parks (June): This insect is as abundant as usual. The first young appeared during the week of June 15.
- Wisconsin. E. L. Chambers (June 24): The European elm scale, not widely distributed in southern Wisconsin, is being observed at additional points but is not known to be present in more than 20 localities.
- Iowa. C. J. Drake (June 24): The European elm scale is unusually abundant in the southern half of the State. Some trees at Harlan have been badly injured.

Utah. G. F. Knowlton (June 11): European elm scale is killing many branches on large ornamental elms at Logan.

HICKORY

HICKORY PHYLLOXERA (Phylloxera caryaecaulis Fitch)

Connecticut and New York. E. P. Felt (June 24): The hickory leaf stem gall occurs in small numbers here and there in southwestern Connecticut and in southeastern New York.

R. E. Horsey (June): Hickory gall aphid is very abundant and disfiguring on native hickory trees at Rochester.

Ohio. T. H. Parks (June): We have received specimens of injury from several widely separated localities. It seems to be more abundant than usual.

Mississippi. C. Lyle (June 25): P. caryaecaulis was collected from hickory at Booneville on May 25.

LARCH

LARCH CASE BEARER (Coleophora laricella Hbn.)

New York. R. D. Glasgow (June 17): The larch case bearer has been more than ordinarily injurious to tamarack this spring in northern New York forests, the first foliage in large areas having been destroyed. Many trees are dead or dying as a result of repeated annual defoliation.

New England. J. V. Schaffner, Jr. (June 12): The larch case bearer infestations in general are much lighter throughout New England this year; however, in some localities in Maine and New Hampshire and around Lake Placid and Saranac in New York some foliage has been severely browned.

LARCH SAWFLY (Lygaeonematus erichsonii Htg.)

Maine. H. B. Peirson (June 13): Adults of the larch sawfly have been observed flying in several places in Washington County.

Pennsylvania. H. E. Hodgkiss (June 23): The larch sawfly is abundant and has caused serious damage.

MAPLE

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Indiana. J. J. Davis (June 22): Cottony maple scale is showing up destructively in the northern half of the State. This is the first time for some years that this scale has been conspicuous.

Mississippi. C. Lyle (June 25): Specimens were received from Marks on May 27 and the pest was observed at Macon on June 4.

South Dakota. H. C. Severin (June): This scale is exceedingly abundant in South Dakota. Many trees and vines look as if they were entirely covered with a coating of popcorn.

Nebraska. M. H. Swenk (June): Reports of damage to maple and other trees were received from Dawson and Custer Counties.

OBSCURE SCALE (Chrysomphalus obscurus Comst.)

Tennessee. G. M. Bentley (June 20): Obscure scale is a very common pest of sugar maple in all parts of Tennessee.

OAK

CALIFORNIA OAK WORM (Phryganidia californica Pack.)

California. R. E. Campbell (June 10): Complaints have been received of the California oak moth attacking oak trees in Alhambra and vicinity. A number of fine old trees on a golf course have been partially defoliated.

PINE

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

Massachusetts. J. V. Schaffner, Jr. (June 12): The infestations of European pine shoot moth seem to persist only in plantings of pine near the sea-shore or on low-growing pines, such as Pinus montana mughus, a few miles inland. At Forest Hills a large ornamental planting of Scotch pine intermixed with mugho pine is seriously infested, while a plantation of red pines a few hundred feet away, which was heavily infested prior to 1934, is now free from infestation.

Connecticut. J. V. Schaffner, Jr. (June 12): In southwestern Connecticut some plantations were found heavily infested this spring.

New York. J. V. Schaffner, Jr. (June 12): In the southern half of Westchester County and on Long Island, some plantations were found to be heavily infested.

R. D. Glasgow (June 17): The European pine shoot moth has shown a remarkable recovery this spring in the lower Hudson Valley. While enormously abundant and destructive a few years ago in parts of Westchester County, of the lower Hudson Valley, and of Long Island, this insect was greatly reduced in numbers by the unusually cold winter of 1934. Larvae and pupae were still relatively rare on untreated trees in the spring of 1935 and later in the same year eggs were difficult to find where hundreds were found 2 years ago. On June 10, however, a count on 10 young untreated trees in Westchester County revealed an average of between 86 and 87 living larvae and pupae per tree.

New Jersey. J. V. Schaffner, Jr. (June 12): At New Vernon and Washington's Crossing, light-to-medium infestations occurred in red pine plantations.

NANTUCKET PINE SHOOT MOTH (Rhyacionia frustrana Comst.)

Ohio. T. H. Parks (June): Larvae with injured pine terminals were received from Portage County in June.

A NEEDLE MINER (Paralechia pinifoliella Chamb.)

New England. J. V. Schaffner, Jr. (June 12): In May and early in June severe local infestations were noted on Pinus rigida at Ogunquit and Kennebunk, Maine, Lexington and West Boylston, Mass., and Burrillville, R. I.

PALES WEEVIL (Hylobius pales Boh.)

New York. R. D. Glasgow (June 17): The pales weevil continues to be a major pest in many parts of eastern and southeastern New York. Serious injury or death to many mugho and other pines in nurseries, ornamental plantings, and reforested areas has been caused by the larvae working just below the surface of the ground.

WHITE GRUBS (Phyllophaga spp.)

Rhode Island. A. E. Stene (June 22): A white pine nursery in Providence County reports considerable damage by white grubs in seed beds. Heavy infestations of the grub have also been found in some lawns of the same county.

PINE NEEDLE SCALE (Chionaspis pinifoliae Fitch)

Massachusetts. A. I. Bourne (June 25): Pine leaf scale was hatching from May 12 to 14, fully a week ahead of the usual date.

New York. R. D. Glasgow (June 17): The pine needle scale is abundant and injurious on mugho and other ornamental pines in various parts of the Hudson Valley.

Nebraska. M. H. Swenk (June 1): The pine leaf scale was found attacking spruce trees in Dixon County on June 1.

A SCOLYTID (Ips calligraphus Germ.)

Mississippi. C. Lyle (June 25): Beetles were very numerous on pines at Ocean Springs on June 16. Injury to pines in Harrison County last month (see June 1936 Bul., p. 140) attributed to the southern pine beetle (Dendroctonus frontalis Zimm.) has now been determined as due to this insect.

SOUTHERN MOLE CRICKET (Scapteriscus acletus R. & H.)

Texas. T. E. Snyder (May 18): These mole crickets damaged pine seedlings in a nursery at Conroe, Montgomery County. (Det. A. B. Gurney.)

POPLAR

POPLAR LEAF BEETLE (Phytodecta pallida L.)

Minnesota. A. G. Ruggles (June 20): Several areas at Cloquet and Tower had quite an infestation of this insect on poplar.

SPRUCE

EUROPEAN SPRUCE SAWFLY (Neodiprion polytomum Htg.)

Maine. H. B. Peirson (June 12): Larvae feeding in a fairly heavy outbreak. (June 12-20): Larvae found feeding in 24 towns scattered throughout eastern and northern Maine.

I N S E C T S A F F E C T I N G G R E E N H O U S E
A N D O R N A M E N T A L P L A N T S

A WEEVIL (Calomycterus setarius Roelofs)

Connecticut. M. P. Zappe (June 22): Adults are beginning to emerge. Larvae and pupae very abundant in soil at Stratford; not quite so abundant in Sharon.

SAY'S BLISTER BEETLE (Pomphopoea sayi Lec.)

New Hampshire. E. P. Felt (June 24): Say's blister beetle was reported as injuring cherry and shrubbery at Etna.

Connecticut. M. P. Zappe (June 11): Heavy infestation but confined to small area in Sharon. All blossoms of lupins eaten in several lawns. Nearly 2 gallons of adults were collected.

A BLISTER BEETLE (Macrobasis torsa Lec.)

Connecticut. W. E. Britton (June): This beetle is a new pest in Connecticut and had partially defoliated a hercules club plant at Derby by June 3. A specimen was received from Ridgefield on June 19.

CUBAN-LAUREL THRIPS (Gynaikothrips uzeli Zimm.)

Florida. J. R. Watson (June 22): Cuban-laurel thrips have been very destructive wherever Ficus religiosa and F. benjamina are used as ornamentals.

A COCCID (Margarodes spp.)

Florida. J. R. Watson (June 22): Ground pearls were reported injuring a lawn of centipede grass in Highlands County.

New

ARBORVITAE

ARBORVITAE LEAF MINER (Argyresthia thuiella Pack.)

New York. R. D. Glasgow (June 17): The arborvitae leaf miner, which appears to be generally distributed, even in deep forests, is a major pest of arborvitae in some nurseries and ornamental plantings in the Hudson Valley.

EUONYMUS

EUONYMUS SCALE (Chionaspis euonymi Comst.)

Ohio. E. W. Mendenhall (June 10): The euonymus scale is found infesting mountain ash in a nursery in Chillicothe.

Mississippi. Jack Milton (June 25): Very abundant in Jackson. Some plants were almost dead because of a heavy infestation. Reported from Leland on June 12.

HONEYSUCKLE

AN APHID (Rhopalosiphum melliferum Hottes)

New York. R. E. Horsey (June): Aphids (Hyadaphis xylosteri Schr.) were very numerous on young shoots and flower buds of Lonicera spp. Flower buds were stunted and only a few flowers opened on June 9.

JUNIPER AND CEDAR

A SCALE INSECT (Aspidiotus coniferarum Ckll.)

Mississippi. G. L. Bond (Feb. 24): Specimens of this scale on cedar were collected at Moss Point in February. (Det. by H. Morrison.)

OLEANDER

OLEANDER CATERPILLAR (Syntomeida epialis Walk.)

Florida. J. R. Watson (June 22): The oleander caterpillar is extremely abundant and destructive from St. Petersburg south. It has not reappeared in the Gainesville section since its extermination by the cold winter of 1934.

PRIVET

A MITE (Eriophyes sp.)

New Jersey. H. W. Allen (May 24): There is at present a heavy infestation of a mite on privet in Moorestown, resulting in a noticeable stunting of the young terminals and uneven growth of hedges.

RHODODENDRON

RHODODENDRON LACEBUG (Stephanitis rhododendri Horv.)

New York. R. E. Horsey (June): Considerable numbers of the first brood of the rhododendron lacebug, both young and winged adults, found on rhododendron on June 20.

ROSE

ROSE CURCULIO (Rhynchites bicolor Fab.)

Kansas. H. R. Bryson (June 23): Rose curculio is more abundant this year than ever before recorded or observed at Manhattan. Cultivated roses have been attacked.

RASPBERRY CANE BORER (Oberea bimaculata Oliv.)

Virginia. H. G. Walker (June 24): Several people have reported that their roses were being injured by the raspberry cane borer.

ROSE SAWFLY (Caliroa aethiops Fab.)

Ohio. E. W. Mendenhall (May 30): The European rose slug is very abundant on rose plants in Columbus and vicinity. The plants showed considerable damage.

Tennessee. G. M. Bentley (June 20): Uncared-for roses are having a heavy infestation of the rose sawfly this year.

THRIPS (Thysanoptera)

Tennessee. G. M. Bentley (June 20): The blooms of outdoor-grown roses this year have been generally infested with thrips, which caused the flowers to shatter shortly after opening.

TAXUS

BLACK VINE WEEVIL (Brachyrhinus sulcatus Fab.)

Connecticut. E. P. Felt (June 24): The black vine weevil was reported as injurious to Taxus at Bethel.

New York. R. D. Glasgow (June 17): The Taxus weevil, which for some years has been very injurious to yew in nurseries, has been reported this spring from various parts of New York to be causing heavy losses of valuable Taxus trees and hedges in ornamental plantings.

INSECTS ATTACKING MAN AND
DOMESTIC ANIMALS

MAN

MOSQUITOES (Culicinae)

Indiana. J. J. Davis (June 22): Mosquito abundance continues to be reported from various localities in the State.

Oregon. H. H. Stage (May 28): Aedes aldrichi Dyar and Knab, and A. vexans Meig. emerged in numbers along the Columbia River beginning May 11.

SANDFLIES (Culicoides spp.)

Georgia. J. B. Hull (June 25): Along the Georgia coast sand flies continued to be numerous around the salt marshes on warm nights when there was little breeze. C. dovei Hall and C. canithorax Hoffm. were found in greatest numbers this month, C. dovei constituting about 75 percent and C. canithorax over 24 percent. Only a few C. melleus Coq. have been collected.

AMERICAN DOG TICK (Dermacentor variabilis Say)

Massachusetts. F. C. Bishopp and C. Smith (June 20): A single adult was taken on a cottontail rabbit, this being the first record of the rabbit as host for the adult of this tick. New host records for immature stages of this species were the gray rat, the jumping mouse (Zapus hudsonius), and sheep.

Illinois. C. L. Metcalf (June 24): The dog tick (D. variabilis) seems to have been more than usually common in central Illinois this spring.

A TICK (Ornithodoros turicata Duges)

Florida. T. F. McGehee (June 25): The relapsing-fever tick was found in the loose sand and debris on the floor of two lime sinks in the vicinity of O'Brien, Suwannee County, on May 21. A survey of the area by Homer Hixson from June 5 to 11 showed about 30 percent of the sinks to be rather heavily infested.

CATTLE

HORN FLY (Haematobia irritans L.)

Massachusetts. F. C. Bishopp and C. Smith (June 19): Horn flies causing some annoyance to cattle in the Buzzards Bay district and on Martha's Vineyard. The number of flies per animal ranged from 10 to 250.

Iowa. R. W. Wells (May 15): Hornflies appeared at Ames about May 15.

Missouri. L. Haseman (June 24): Since June 15 the hornfly in central Missouri has been unusually abundant and vicious.

SCREW WORM (Cochliomyia americana C. & P.)

Oklahoma. R. Melvin (June 25): One adult was captured in a trap at Lawton during the week of May 27 to June 3.

Texas. R. Melvin (June 25): The first infestations this season in Parker and Dallas Counties were reported on June 5 and June 15, respectively.

STABLE FLY (Stomoxys calcitrans L.)

Iowa. R. W. Wells (June 1): The first seasonal appearance of the stable flies was noticed about May 15, but they have not become annoyingly abundant.

Missouri. L. Haseman (June 24): Since June 15 the stable fly has been unusually abundant and vicious in central Missouri.

BUFFALO GNATS (Simulium spp.)

New York. R. D. Glasgow (June 17): Black flies were reported on May 29 to have been interfering with W. P. A. work in Bear Mountain Park in southeastern New York. However, they are apparently far less abundant this year than usual in Lake Placid area, northern New York. The section has been dry, streams are low, few pupae and fewer larvae were observed on June 15, and empty cocoons indicated that emergence is practically complete in the area named.

GULF COAST TICK (Amblyomma maculatum Koch)

Georgia. Homer Hixson (June 25): Examination of meadowlarks at Valdosta, one of the principal hosts of the immature stages of this species of tick, indicate that nymphs were no longer active on May 27. Examinations of sheep and other animals show that infestations with the adult ticks are increasing.

HORSE

HORSEFLIES (Chrysops spp.)

Delaware. L. A. Stearns (May 27): C. plangens Wied. and C. flavidus Wied. are numerous and causing great annoyance to man and livestock at Odessa.



HOUSEHOLD AND STORED-PRODUCTS INSECTS

TERMITES (Reticulitermes spp.)

- Massachusetts. A. I. Bourne (June 25): Many reports of termite damage have been received this season. Most of the complaints have been from the vicinity of Springfield, in southern Hampden County, although reports of rather serious damage have come from other parts of the State.
- Connecticut. N. Turner (June 24): Reported cases of damage decreased during June, since the flight season is about over.
- Minnesota. A. G. Ruggles (June): We have located some termites in Minnesota, damaging timbers of a house at Luverne.
- Iowa. H. E. Jaques (June 22): Many of the fences on a farm in Des Moines County are reported to be badly eaten by R. tibialis Bks.

ANTS (Formicidae)

- Maine. H. B. Peirson (June): Many calls have been received of black carpenter ants (Camponotus herculeanus pennsylvanicus DeG.) invading homes and camps.
- Nebraska. M. H. Swenk (May 28): The black carpenter ant was reported working in a basement in Washington County. (June 6): The black garden ant (Formica fusca Hinds) was reported present in damaging numbers in the garden of a Dawes County correspondent. Complaints of the western harvester, or mound-building prairie ant (Pogonomyrmex occidentalis Cress.), working in gardens and fields were received during the latter part of May and the first few days of June from Franklin, Harlan, and Furnas Counties.
- Kansas. H. R. Bryson (June 19): Mound-building prairie ants are reported to be very destructive in alfalfa fields at Oakley, Brewster, Gem, and Beverly.
- South Dakota. H. C. Severin (June): Ants of several species have been giving considerable trouble because of their invasion of flowers.

PEA WEEVIL (Bruchus pisorum L.)

- Georgia. T. L. Bissell (June 25): Weevils emerged today from pods of Austrian winter pea picked at Griffin on June 11.

A CLOTHES MOTH (Tineola uterella Walsingham)

- Florida. J. R. Watson (June 22): Has been reported in a few localities, although the numbers are much smaller than during the last few years, probably because the species was heavily parasitized last year.